

A
BRIEF VIEW OF POSITIVISM.

COMPILED FROM THE WORKS OF

AUGUSTE COMTE,

BY

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WORKS OF AUGUSTE COMTE.

1. Cours de Philosophie Positive. 1830-1842. 6 vols.
2. Traité Élémentaire de Géométrie Analytique. 1843. 1 vol.
3. Discours sur l'Esprit Positif. 1844. 1 vol.
4. Traité Philosophique d'Astronomie Populaire. 1845. 1 vol.
5. Discours sur l'Ensemble du Positivisme. 1848. 1 vol.
6. Discours prononcé aux funérailles de Blagnyville, 7 Mai, 1850. (Reprinted in first volume of *Système de Politique Positive*.)
7. Système de Politique Positive. 1851-1854. 4 vols.
The Appendix to this contains the following of Auguste Comte's early Works:—
 - (i) Séparation générale entre les opinions et les désirs. 1819.
 - (ii) Ebauche philosophique de l'ensemble du passé depuis le milieu du moyen âge. 1820.
 - (iii) Plans des travaux scientifiques nécessaires pour réorganiser la société. 1822.
 - (iv) Considérations philosophiques sur les sciences et les savants. 1825.
 - (v) Considérations sur le Pouvoir Spirituel. 1826.
 - (vi) Examen du traité de Broussais sur l'*Irritation et la Folie*. 1828.
8. Catéchisme Positiviste, ou sommaire exposition de la Religion universelle. 1852. 1 vol.
9. Calendrier Positiviste, 1849-1860. A brochure. (Eight editions.)
10. Bibliothèque Positiviste, 1851-1860. A sheet. (Four editions.)
11. Appel aux Conservateurs. 1855. 1 vol.
12. Synthèse Subjective, ou Système universel des conceptions propres à l'état normal de l'Humanité.
Tome I., contenant le *Système de Logique Positive* ou Traité de Philosophie Mathématique. 1856. 1 vol.

These works are sold at the firm of MM. Victor Dalmont et Dunod, 49, Quai des Augustins, Paris. The English translations of (5) and (8), and also Miss H. Martineau's condensed translation of (1), may be obtained from Messrs. N. Trübner and Co., 60, Paternoster Row, London. The English translation of (5), by Dr. J. H. Bridges, is entitled *A General View of Positivism*; that of (8), by Dr. R. Congreve, is entitled *The Catechism of Positive Religion*. An English translation of the *Politique Positive* (7) has been completed, and will be shortly published by Messrs. Trübner and Co.

P R E F A C E

THE following pages are intended to furnish a brief introduction to Positivism,* under all its different aspects. The aim of the writer has been to present the system, as far as he could, in Comte's own words: hence free use has been made both of Miss Harriet Martineau's condensed translation of the *Positive Philosophy*, and of Dr. Congreve's translation of the *Catechism*. Wherever any original remarks have been introduced, it is hoped that they will be found, in the estimation of competent judges, to be such as are calculated neither to distort the views or arguments of the master, nor to thrust the disciple unnecessarily into the foreground. My chief object has been to select suitable materials for the beginner, and to arrange

* By 'Positivism' is meant a system which rests entirely upon ascertained facts and verifiable hypotheses, as distinct from systems which build upon purely subjective foundations, and which deal largely with certain ideas—the contradictories of notions derived from sense-experience. Thus, while Science works with such materials as Number, Space, Time, Matter, Life, Law, &c., Metaphysics, on the contrary, discusses Infinity, the Unlimited, Eternity, the Immaterial, Immortality, the Unconditioned, &c.

Positivism destroys, it is true, but only in order that it may replace. *Metaphysics*, in theology, and *Democracy*, in politics, are both purely negative; the former acting as a solvent of all organic belief, while the latter endeavours to secure progress by measures which are wholly anarchical. *Positivism*, on the other hand, aims at the reconstruction of religion by placing it on an ascertained basis of Science, and seeks the continuous improvement of mankind by establishing an order of which progress shall be the legitimate result. (See p. 121.)

them in a perspicuous manner. All who peruse this little volume are strongly recommended not to rest content until they have mastered the original treatises upon which it is founded. The two works already mentioned, together with the *General View* as translated by Dr. Bridges, afford ample materials to the English reader for arriving at a definite conclusion as to the merits of the Positive doctrine, and for testing its claims to inaugurate a new era in the history of man—an era, however, which is to be regarded as the logical result of the past, each of the preceding phases having been necessary in order to constitute the final one.

In commencing the study of Positivism, a difficulty may be experienced at the outset in fully mastering the scientific conceptions which form the basis upon which the whole system rests. The difficulty is undeniable, but its magnitude may be, and generally is, much exaggerated. A certain mental cultivation is desirable ; a knowledge, for instance, of the elements of Mathematics, an acquaintance with the general facts of History, and some few leading notions regarding the chief inductive sciences. These requirements are possessed at present by most educated men, but where they do not exist, a special, though not prolonged, training will be necessary in order to secure them.

The fundamental scientific conceptions are not numerous, and may be soon mastered by any one of ordinary intelligence. The knowledge required is

neither minute nor encyclopædic ; it is not necessary to trace any one of the sciences through all its complicated details, nor is it necessary to study all or any large number of those subjects which are usually termed scientific. As a mere tyro in mathematics can be made to appreciate the law of gravitation without wading through the whole of Newton's *Principia*, so a person of very meagre scientific attainments can form a fair estimate of Comte's Philosophy without putting himself through a preliminary course of training in some encyclopædia of modern science.

The scale of abstract sciences, as given by Comte, consists of seven degrees. First, *Mathematics*, which deals with number, extension, and motion, attributes common to all things. Secondly, *Astronomy*, which deals with the geometrical and mechanical relations of the earth to the other stars. Thirdly, *Physics*, which deals with what have been termed the secondary qualities of matter, as weight, heat, sound, colour, electricity, and magnetism. Fourthly, *Chemistry*, which deals with the molecular constitution of bodies. Fifthly, *Biology*, which deals with the general study of life in all its forms. Sixthly, *Sociology*, which deals with society. Seventhly, *Morals*, which deals with man as an individual.

The arrangement here adopted is so natural and so simple that it needs no explanation in order to impress it upon the mind. A single glance will show that the subjects are arranged, in an ascending

order, according to their increasing complexity and the decreasing generality of the phenomena dealt with. The order given by this rule can be verified by showing that it accords with the actual order of development in history.*

This classification must be thoroughly mastered, and certain leading scientific principles must be acquired for this purpose. Owing to our too strictly literary education, there are many not fully qualified to undertake such a task, with the slender stock of science they have brought from the schools. When education is placed upon a sounder basis, this deficiency will, in a great measure, disappear: in the meanwhile, Positivism must appeal for a hearing simply to those who are duly prepared intellectually, and to those who are willing to undertake the not very formidable labour required for mastering the few fundamental conceptions connected with the subjects above enumerated.

An acquaintance with Arithmetic and Geometry, and with Mechanics, so far as to appreciate thoroughly the three Laws of Motion, will be found, if not quite sufficient, at least highly valuable, wherever the principles of science and the operations of the

* This statement must not be interpreted too literally. It can only be appreciated fully by those who have thoroughly mastered Comte's *Positive Philosophy* and the volume on History in the *Politique Positive*. Our fundamental conceptions have, in fact, advanced simultaneously, though at different rates. During the advance, each conception has acted upon all the others, being in its turn re-acted upon by those others—the actions and re-actions, at each epoch, depending upon the then state of the general body of scientific conceptions.

PREFACE.

human mind, in the discovery of the laws of nature, are involved. The history and theory of Astronomy, as contained in any good popular treatise, should be read: and an attempt should be made to learn the rudiments of Chemistry and Physiology,—no gigantic task in the present age, when the materials for accomplishing it exist in such abundance. It may be presumed that in general no special training beyond that of the schools will be required for History; but it must not be forgotten that the wider and deeper the historical researches have been, the more prepared will the student find himself for appreciating the triumphs of Comte, which are most signal in the field of History.

The Tables at the end should be carefully studied, as they furnish a brief synopsis of the whole Positive doctrine.

I ought not to conclude this Preface without thanking the Manager of the *Bengalee*, Baboo Bacha Ram Chatterjee, for the kind assistance which he has rendered me in the execution of my task. My contributions to his paper commenced during the life-time of the late lamented Editor, Baboo Greesh Chunder Ghose. This excellent man gave a ready welcome to the doctrines of Positivism, and would, I feel convinced, had he been spared, have become one of its most able, as he certainly would have been one of its most enthusiastic, supporters. It was he who

encouraged me to continue the work after I had commenced it; it was he who braved the hostility of the many adversaries who are prepared to rise in arms against a new creed which claims to be organic; to him belongs the chief credit of any gain which may have accrued to Positivism in consequence of its being advocated by the *Bengalee*. He, too, first broached the idea of putting together the various articles thus contributed, and forming them into a kind of Manual for the use of readers in this country, where the original treatises are not easily procurable.

LIFE OF COMTE.*

AUGUSTE COMTE was born at Montpellier, 19th June, 1798. His father was treasurer of taxes for the department of Hérault. Both father and mother were strict Catholics and ardent royalists. At the age of nine, he became a boarder in the Montpellier Lycée; and there distinguished himself by his ardour in study and by his resistance to discipline.

At the age of twelve, he had learned all that the Lycée prescribed in the way of instruction, and the Director begged that he might begin mathematics. Consent having been given, he made such rapid progress, that in four years he had gained a first place at the Ecole Polytechnique, although the rules of that institution did not then allow of his admission, because he was still under age. He had to wait a whole year before the doors were opened to him; and in that year he displayed his acquirements by taking the place of his old professor (who was in failing health), and giving a course of mathematics to his former comrades, and some of his former masters.

At the age of seventeen, he was admitted to the Ecole Polytechnique. Here he not only became an accomplished

* The greater part of this Life of Comte has been taken almost *verbatim* from the admirable account given in the 'History of Philosophy,' by Mr. G. H. Lewes.

mathematician, but also devoted much of his time to philosophical and political studies. A brilliant career seemed certain, when it was arrested by an act of insubordination in which he took the lead. One of the masters had insulted the younger students by his manners; the elder students took up the case, and after mature deliberation decided that the master was unworthy of continuing in his office. A notification to this effect was drawn up by Comte, who was the first to sign it. The result was his expulsion. He was forced to return home; and remained there sometime under the surveillance of the police.

After a few months spent in earnest study, he resolved upon returning to Paris, in spite of the remonstrances of his parents, who refused to give anything towards his support if he quitted his native city without an assured position.

Arrived in Paris he had only his own energies to depend upon. He supplied his modest wants by giving private lessons in mathematics. Two illustrious men of science,—Poinset and De Blainville,—befriended him. By their aid a few pupils were obtained: one of them was the Prince de Carignan.

About this time he became private Secretary to Casimir Périer. Some comments which he made on the public labours of his master gave offence, and he was dismissed, having filled the post for only three weeks. From Casimir Périer he passed over to the celebrated St. Simon. This was in 1818. The connection between Comte and St. Simon lasted for six years, beginning with great enthusiasm on Comte's part, continuing for sometime with affectionate veneration, and ending in a violent rupture which was the culmination of a growing dissidence in opinion.

Into the dispute between the two philosophers we shall not here enter. The rupture took place in 1824. In 1822, Comte published his *Plan des travaux nécessaires pour réorganiser la Société*, an Essay in which are set forth the laws of social evolution. In 1824, he gave, for the first time, an outline of the Positive Philosophy in another Essay

entitled *Considérations Philosophiques sur les Sciences et les Savants*. In these two essays it is shown (1) that all phenomena, even those of politics, are subject to invariable laws; (2) that the human mind passes from its initial theological conceptions to its final positive conceptions, through the transition of metaphysical conceptions; (3) that human activity, in like manner, passes through three phases, from the conquering military *régime* to the pacific industrial *régime*, through the transitional state of a defensive military *régime*; (4) that everywhere, and at all times, the state of opinions and manners determines the institutions, and that the nature of the general belief determines a corresponding political *régime*; (5) that philosophy (or general beliefs) in passing from the theological to the positive stage, must bring about the substitution of the industrial for the military *régime*; and (6), finally, that the spiritual reorganization, which is the necessary condition of all social reorganization, must repose upon the authority of demonstration,—it must be based upon science, with a priesthood properly constituted out of the regenerated scientific classes.

In 1825, he married Carroline Massin, a young woman of humble though respectable parentage. The marriage was an unhappy one. His family at first opposed the match, but finally gave a reluctant consent: though, to their grief, the religious ceremony was resolutely declined, and a civil marriage was all that Comte would accept. With the slender dower of his wife a small lodging was obtained, and here Comte for a while gained a livelihood by giving lessons in mathematics. Having been led to expect that he might obtain a few pupils, belonging to aristocratic families, as boarders, he took well-furnished and expensive lodgings. His small stock of ready money was thus invested, but the pupils never came, and in a few months the young couple had to migrate to a more modest dwelling-place. In spite of the difficulties by which he was surrounded, Comte

still pursued, with the utmost perseverance, his philosophical speculations.

By the month of April, 1826, the system of Positivism was sufficiently developed in his mind for a dogmatic exposition, which he announced in a course of seventy-two lectures to be delivered in his private rooms. Among the men of note who attended these lectures were Humboldt, Poincot, De Blainville, Montebello, Carnot, Fourier (the mathematician) and Broussais. After the delivery of three or four lectures, Comte was attacked with a violent fit of insanity in consequence of which the course was abruptly closed. The attack was so severe that it was thought expedient to remove the patient to a madhouse. The crisis lasted several months, but it was not till the year 1828 that his health was sufficiently re-established to enable him to resume his philosophical labours. We shall not dwell upon the painful details of this melancholy period. The attack was no doubt brought on by intense and continued cerebral excitement; while it lasted, a noble intellect was obscured for a while; but when it passed away, that intellect re-assumed all its original grandeur and serenity. In 1828, Comte recommenced the oral exposition of his system. He completed the course, and also gave a brief public exposition of his historical views. In 1830, he published the first volume of his *Cours de Philosophie Positive*. In this year he began to give the *gratuitous* course of public lectures on Astronomy, which was repeated for seven years, and afterwards (1844) published under the title of *Traité Philosophique d'Astronomie Populaire*. The second volume of the *Cours de Philosophie Positive* did not appear till 1835; the sixth and last volume was published in 1842.

In 1832, Comte obtained an appointment in the Ecole Polytechnique, as assistant professor of transcendental analysis and rational mechanics. In 1836, he was appointed to the principal chair of mathematics, and was made en-

trance-examiner. With these two appointments, and a small professorship which he held in a private educational establishment, his income on the whole amounted to £400 a year, so that he was now enabled to dispense with his private pupils, and to procure for himself luxuries from which hitherto he had been forced to abstain. Being passionately fond of music, he indulged in a stall at the Italian opera every season so long as his good fortune lasted.

In the year 1842, he completed his great work, the *Philosophie Positive*. In this year also he was separated from his wife, and thus relieved from what he termed 'an intolerable domestic oppression.' The principal cause of this separation appears to have been a want of sympathy on the part of Madame Comte with the views and habits of her husband. She quitted, of her own accord, the home which continued strife had rendered miserable.

Owing to differences with his colleagues, whose enmity he had excited by his uncompromising manner and his unwelcome doctrines, he was deprived of his post of examiner in 1844, and of his modest professorship in 1852. Thus he was reduced to a state of indigence, in which his chief support was derived from voluntary contributions bestowed by his admirers in England and France.

It was in the year 1845 that he first met Madame Clotilde de Vaux, a lady of surpassing beauty, gifted with a rare organization, both intellectual and moral, and whose fate bore some resemblance to that of the founder of Positivism. She was irrevocably separated from her husband by a crime which had condemned him to the galleys for life; yet although morally free, she was legally bound to the man whose disgrace overshadowed her. Comte also was irrevocably separated from his wife by her voluntary departure; and although morally free, was legally bound. Marriage being thus impossible, they had only the consolation of a pure and passionate friendship. Comte himself thus speaks of her, "Clotilde de Vaux was gifted equally

in heart and mind. Misunderstood everywhere, even by her own family, her nature was far too noble for bitterness. Her sorrows were as exceptional as they were undeserved; but her purity was even more rare than her sorrow. Her nature was of rare endowment, moved by noble impulse, and yet allowing its due influence to reason. With such a nature my Saint Clotilda was, as may be supposed, fully conscious of the moral value of Positivism, though she had only one year to give to its study. A few months before her death, she wrote to me: 'If I were a man I should be your enthusiastic disciple; as a woman, I can but offer you my cordial admiration.' " Writing some years after her death, he thus describes her influence upon him, "Whilst she lived, I felt her angelic influence for one year only. She has now for more than six years, since her death, been associated with all my thoughts, and with all my feelings. Through her I have at length become for Humanity, in the strictest sense, a twofold organ, as may any one who has reaped the full advantages of woman's influence. My career had been that of Aristotle—I should have wanted energy for that of St. Paul—but for her. I had extracted sound philosophy from real science; I was enabled by her to found on the basis of that philosophy the universal religion."

In 1848, he published the *Discours sur l'Ensemble de Positivisme*, in which he gives a summary exposition of the system of thought and life adapted to the great Western republic. In this essay he endeavoured to fix definitively the nature and principles of the modern social re-organization. The three mottoes which appear on the title page will give an idea of the general results at which he arrives. They are: (1) Re-organization, irrespectively of God or King, by the worship of Humanity, systematically adopted; (2) Man's only right is to do his duty; (3) The Intellect should always be the servant of the Heart, and should never be its slave.

In 1849, Comte published the *Calendrier Positiviste*, in which he proposed a systematic worship by Humanity of itself, as represented in its greatest men of all ages. Before setting himself to the composition of his second great work, the *Politique Positive*, Comte had another cerebral attack, though but a slight one, and of brief duration. We deem it superfluous to enlarge upon the opinions of adversaries who regard Comte's social speculations as vitiated by this passing attack, which was of a far less serious nature than the former one. Comte's social system, utopian though it may appear to be in many respects, is in its grand outline the legitimate result of his earlier labours. From the time when he joined St. Simon, even before he had worked out his great law of human development, the organization of society upon a new and solid basis was a problem which he had distinctly proposed to himself. We cannot therefore regard his two cerebral attacks as more than transient maladies, which in no way affected his wonderful intellect; and though we can understand the enmity which rejects and stigmatizes Positivism as a whole, we cannot understand the disguised friendship which looks favourably upon one part of the system while it pronounces the other part to be the work of a madman.

The first volume of the *Politique Positive* appeared in 1851, the fourth and last in 1854. In 1852, he published the *Catéchisme Positiviste*, which claimed to be a summary exposition of the Universal Religion, and "to furnish a systematic basis for the active propagation of Positivism."

His last work, which he did not live to complete, was the *Synthèse Subjective*, in which he proposed to systematize the conceptions which belong to the normal state of Humanity. It was to consist of three parts: (1) the System of Positive Logic; (2) the System of Positive Morals; (3) the System of Positive Industry. Of these, the first part only was published.

He died on the 5th September, 1857, at the age of sixty, surrounded by a few devoted friends and disciples who

pledged themselves to carry on the work which their great master had so nobly begun.

In estimating the character of Comte, we do not pretend to assert that he was faultless, but we believe that all his shortcomings were redeemed by his honesty of purpose, his thorough sincerity, his noble self-sacrifice, his love of virtue, and his enthusiasm of humanity. He devoted his life to the elaboration of a system which he believed was to regenerate the world, and he pursued his object steadily and courageously in spite of his own private sufferings, the alienation of friends, and the scorn of foes. Regard his life and purpose as we may, none can deny that there is an element of grandeur in his career, none can look without a certain feeling of respect on the solitary student who, with his magnificent intellect, might have won riches and rank, the applause of the multitude and the favour of the powerful; but who chose rather to tread in what he deemed the path of duty, and to postpone his own happiness to an object which he regarded as identical with the well-being of his fellow-men.

We close this brief sketch with a picture of Comte's daily life during his later years. He rose at 5 in the morning, prayed, meditated, and wrote until 7 in the evening, with brief intervals for his two meals. Every day he read a chapter from the *Imitation of Christ*, and a canto of Dante. Homer also was frequently re-read. From 7 to 9 (and on Sundays in the afternoon) he received visits, specially from working men, among whom he found disciples. On Wednesday afternoon he visited the tomb of Madame De Vaux. At 10 he again prayed and went to bed. Nothing could be simpler than his meals: breakfast consisted only of milk; dinner was more substantial, but rigorously limited. At the close of dinner he daily replaced dessert by a piece of dry bread, which he ate slowly, meditating on the numerous poor who were unable to procure even that means of nourishment in return for their work.

A BRIEF VIEW OF POSITIVISM.

PART I.

CHAPTER I.

(I) THE LAW OF THE THREE STAGES.

We owe to Comte the discovery of the two fundamental laws of man's mental development. The first is termed the law of *filiation*, the second that of *classification*. (I)—The law of *filiation* indicates the manner in which the mind advances in its growth from a rudimentary to a mature state,—passing necessarily through three stages, termed, by Comte, the *theological*, *metaphysical*, and *positive*. Hence the law is not unfrequently alluded to as the law of *the three stages*. It applies equally to the individual and to the race. (II)—The law of *classification* has reference to the unvarying order in which our scientific conceptions are arranged, and enables us to compare the rates at which they severally advance.

The two laws of mental development.

From the study of the development of human intelligence, in all directions, and through all times, the discovery arises of a great fundamental law, to which it is subject, and which has a solid foundation of proof, both in the facts of our organization and in our historical experience. The law is this:—that each of our leading conceptions, each branch of our knowledge, passes successively through three different theoretical conditions: (1) the Theological, or fictitious; (2) the Metaphysical, or abstract; and (3) the scientific, or Positive. In other words, the human mind,

The Law of the Three Stages (or of Filiation.)

Stated.

Three philosophies.

by its nature, employs in its progress three Methods of philosophising, the character of which is essentially different, and even radically opposed: *viz.*, the Theological Method, the Metaphysical, and the Positive. Hence arise three Philosophies, or general systems of conceptions on the aggregate of phenomena, each of which excludes the others. The first is the necessary point of departure of the human understanding, and the third is its fixed and definitive state, the second is merely transitional.

Object of Philosophy.

The business of Philosophy is the study of the external World and of Man. Now there are two methods of proceeding: we may either pass from the study of Man to that of the external World, or conversely from the study of the external World to that of Man. When Philosophy shall be perfect, it will be indifferent which of these two methods are pursued; both will lead to the same result. In the meanwhile they give rise to two distinct Philosophies, the Theological and the Positive.

Theology and Positivism contrasted.

All Theological Philosophy endeavours to explain the phenomena of the external world from the starting point of our consciousness of human phenomena; whereas the Positive Philosophy subordinates the conception of Man to that of the external World. The incompatibility between the two Philosophies proceeds from this radical opposition. If the consideration of Man is to prevail over that of external Nature, all phenomena are inevitably attributed to *will*. At first this *will* is supposed to reside in Nature itself, but afterwards it is regarded as external to Nature, and hence arise the various Theological and subsequent Metaphysical* conceptions.

* The term *metaphysical* is used by Comte in a wide sense. Sometimes he employs it to characterize those investigations which relate to the origin of Being, and to the First or Final causes of things. Thus employed, it is nearly the same as *ontological*.

In science, the *metaphysical* is that which forms the connecting link between the *theological* and the *positive*. Between man's first and ultimate mode of thought there is a transitional state, partly theological and partly positive. The stage at which this occurs has been termed by Comte the *metaphysical* stage.

But the direct study of the external World suggests and develops the idea of the *laws of nature*, which idea is the basis of all Positive Philosophy and gradually supersedes the notion of an arbitrary Will regulating the phenomena of the universe. As science advances, it is seen that this *idea of law* is capable of extension to the whole of the phenomena presented to us, and that Man himself may at length be brought under it. When the extension has proceeded thus far, but not till then, the construction of a Positive Philosophy ceases to be more than a dream. The schools of Theology and Metaphysics are innumerable, but they all agree in regarding the study of Man as primary, and that of the external World as secondary. The most marked characteristic of Positivism is, that it founds the study of Man on the prior knowledge of the external World, and as its results can be tested by experience, the truth or falsity of its doctrine must sooner or later become manifest. Theology and Metaphysics possess no criteria by which their conclusions can be verified.

Laws of Nature.

A Positive Philosophy when possible.

(1) *Theological Stage.*

In the *Theological* stage the human mind seeking the essential nature of things, the first and final causes of effects, supposes phenomena in general to be produced by the immediate action of supernatural beings. This stage, in the history of mankind, is divided into *three* distinct periods, *viz.*, (a) the Fetichistic, (b) the Polytheistic, and (c) the Monotheistic.

Theological stage divided into three:—
(a) Fetichism.
(b) Polytheism.
(c) Monotheism.

(a) In the first of these Man conceives the external World as animated by a life analogous to his own. Fetichism is the basis of the Theological Philosophy, deifying every

(a) Fetichism.

Finally the term *metaphysical* is applied by Comte to all the characteristic doctrines—political, social, and moral—of that school which has abandoned the old orthodox theological point of view, and yet refuses to adopt entirely the scientific or positive one.

substance or phenomenon which attracts the attention of nascent Humanity, and remaining traceable through all its transformations to the very last.

(b) Polytheism.

(b) Polytheism is directly derived from Fetichism. As Man's knowledge of external phenomena became more general, it was inevitable that the Theological conceptions corresponding to those phenomena should also undergo a process of generalization. The Fetich is inseparable from the one object in which it resides. When certain phenomena appeared alike in various substances, the corresponding Fétiches must have formed a group, and at length coalesced into a single principal one, which thus became a *god*: that is, an ideal and usually invisible agent, whose residence is no longer rigorously fixed. The purely Theological nature of the primitive Philosophy was still preserved in the conception that phenomena were governed by *will* and not by *laws*: while it was profoundly modified by the view that Matter was no longer alive but inert, and obtained all its activity from an *imaginary external being*.

A *god* defined.

(c) Monotheism.

(c) In Monotheism the providential action of a *single being* is substituted for the varied operations of the numerous divinities which had characterized the preceding phase.

(2) *Metaphysical Stage.*

This stage characterized.

In the *Metaphysical* stage, which is only a modification of the Theological stage, the mind supposes, instead of supernatural beings, *abstract forces*, veritable *entities* (that is *personified abstractions*) inherent in all beings, and capable of producing all phenomena. What is called the explanation of phenomena is, in this stage, a mere reference of each phenomenon to its proper entity.*

* Kepler, in describing the moving force by which the planets are carried round in their orbits, says: "It seems as if something divine were latent in the body of the sun, and comparable to our own soul, whence that species emanates which drives round the planets; just as from the mind of a slinger the species of motion sticks to the stones, and carries them forward, even after he who cast them has drawn back his hand."

(3) *Positive Stage.*

In the *Positive* stage, which is the final one, the mind has given up the search after absolute notions, the origin and destination of the universe, and the causes of phenomena, and applies itself to the study of their laws, that is, their invariable relations of succession and resemblance. Reasoning and Observation duly combined are the means of this knowledge. What is now understood when we speak of an explanation of facts, is simply the establishment of a connection between single phenomena and some general facts, the number of which continually diminishes with the progress of science.*

This stage characterized.

Laws.

Evidence for the Law.

The evidence for this law rests upon certain reasons which may be divided into *actual* and *theoretical*.

Of two kinds:

The *actual* evidences are two in number.

(1) *Actual.*

(i) *First*, each science which has attained the *Positive* stage, bears marks of having passed through the other two. If we examine any particular science, we shall perceive that sometime since it was replete with *Metaphysical* abstractions; and that further back in the course of time it took its form from *Theological* conceptions. Even the most

(i) Each science bears marks of the two first stages.

* Taking the case of the planetary motions, the three consecutive modes of thought may be thus illustrated:—

According to the primitive *theological* view, the planetary motions would be due to some supernatural but quasi-human agency. When the *metaphysical* mode of thought has been introduced, this divine personal agency is no longer regarded as affording a satisfactory explanation of the phenomena: in this stage the observed motions are supposed to be due to abstract forces residing in the bodies themselves. (See the previous note.) According to the *positive* conception, which is represented by the Newtonian theory of gravitation, the planets are regarded as merely tending towards the sun, their motions being assimilated to those of projectiles at the earth's surface. The idea of an attractive force residing in matter is not essential to Newton's theory,—it is simply a remnant of metaphysical modes of thought.

The three stages illustrated.

The law of the three stages can only be fully appreciated after a careful survey of the whole field of human history. Such an illustration as that above given can only assist the tyro in fixing his conceptions.

advanced sciences still bear evident marks of the two earlier periods through which they have passed.

Attraction
in Astro-
nomy.

In Astronomy the notion is still entertained of an *attractive force* residing in matter, and producing the observed phenomena. In Physics we still find a trace of the Metaphysical stage in the *fluids* and *ethers*, which are invented in order to account for the phenomena of Heat, Light, Electricity, and Magnetism. These *fluids* and *ethers* are simply the old entities materialised.

Affinities in
Chemistry.

The doctrine of *affinities* in Chemistry is also Metaphysical. These *affinities* are at bottom pure entities, as vague and indeterminate as those of the Scholastic Philosophy in the Middle Ages.

(ii) Each
individual
passes
through
the three
stages.

(ii) *Secondly*, each individual can verify the law for himself by observing his own passage through the three stages. The point of departure of the individual and of the race being the same, the phases of the mind of a man correspond to the epochs of the mind of the race. Now each of us is aware, if he looks back upon his own history, that he was a *theologian* in his childhood, a *metaphysician* in his youth, and a *natural philosopher* in his manhood.

(2) *Theoretical*.

We shall now notice the *theoretical* reasons in support of this law.

Necessity
for a theory
at each
epoch.

The most important of these reasons arises from the necessity that always exists for some *theory* to which to refer our *facts*, combined with the clear impossibility that, at the outset of human knowledge, men could have formed theories out of the observation of facts. It is now universally admitted that there can be no real knowledge except that which is based on observed facts; but, if we look back to the primitive stage of human knowledge, we shall see that this principle could not then be recognized. If it is true that every theory must be based upon observed facts, it is equally true that facts cannot be observed without the guidance of some theory. Without such guidance, our facts would be desultory and fruitless; we could not retain

Knowledge
could not
at first be
based on
observed
facts.

them, for the most part we could not even perceive them. Hence theological conceptions were necessary at the outset. Thus between the necessity of observing facts in order to form a theory, and of having a theory in order to observe facts, the human mind would have been entangled in a vicious circle, but for the natural opening afforded by Theological conceptions. This is the fundamental reason which demonstrates the logical necessity for the purely Theological character of the primitive philosophy.

This necessity is confirmed by the perfect suitability of the Theological Philosophy to the earliest researches of the human mind. It is remarkable that the most inaccessible questions,—the essence of objects, the origin and purpose of phenomena,—should be the first to occur in a primitive state, while those which are really within our reach are regarded as almost unworthy of serious study. The reason is evident:—namely, that experience alone can teach us the measure of our powers; and if men had not begun by an exaggerated estimate of what they can do, they would never have done all that they are capable of. Our organization requires this. At such a period there could have been no reception of a Positive Philosophy, whose function is to discover the laws of phenomena, and whose leading characteristic it is to regard as interdicted to human reason, those sublime mysteries which Theology explains, with the most attractive facility.

From a *practical* point of view also, the Theological Philosophy was well adapted to the primitive state of Man. The researches then pursued offered the powerful charm of unlimited empire over the external world, which was regarded as wholly destined for our use, and intimately connected with our existence. The Theological Philosophy, which raised these chimerical hopes and exaggerated ideas of Man's importance in the universe, administered exactly the stimulus necessary to incite the human mind to those irksome labours without which no progress could be effected. Theology practically well adapted to the early state of man.

This early state now scarcely conceivable.

We can now scarcely conceive this primitive state of things, our reason having become sufficiently mature to enter upon laborious scientific researches, without needing any such stimulus as wrought upon the imaginations of Astrologers and Alchemists. We have motive enough in the hope of discovering the laws of phenomena, with a view to the confirmation or rejection of a theory. But it could not be so in the earliest days; and it is to the chimeras of Astrology and Alchemy that we owe the long series of observations and experiments on which our Positive Science is based.

Thus was a spontaneous Philosophy, the Theological, the only possible beginning, method, and provisional system, out of which the Positive Philosophy could grow. It is easy, after this, to perceive how Metaphysical methods and doctrines must have afforded the means of transition from the provisional to the definitive state.

A transitional stage required in passing from theological to positive conceptions.

The human understanding, slow in its advance, could not step at once from the Theological into the Positive Philosophy. The two are so radically opposed, that an intermediate system of conceptions has been necessary to render the transition possible. Such is the natural purpose of Metaphysical conceptions, they have no other real utility. In studying phenomena, men come at length to substitute, for direct supernatural agency, a corresponding and inseparable *entity*. This *entity* may have been supposed at first to be derived from the supernatural action; it is, however, gradually lost sight of, and thus man comes to concentrate his attention upon the facts themselves, till, at length, Metaphysical agents cease to be anything more than the abstract names of phenomena.

The law applies to each special science.

Different rates of progress.

Such is the general law of progress. It remains to show* how this law applies not only to the advancement of human knowledge in the aggregate, but also to each special depart-

* Comte has traced, in his *Positive Philosophy*, the development of each of the abstract sciences.

ment ; since it is manifest that the different sciences, as they appear at any one time, present themselves in very different degrees of perfection.*

This unequal state of development, at any one time, is owing to the unequal rate of advance of the different kinds of knowledge, so that a complementary law is required by which we can assign at once the degree of perfection which any one science has attained relatively to the rest. This complementary law is, *that any kind of knowledge reaches the positive stage early in proportion to its generality, simplicity, and independence of other departments.* According to this law, the sciences may be arranged in an ascending order, proceeding from the simplest, which deal with the most general phenomena, to the most complex, which deal with the highest and most special phenomena. Hence it is termed the law of *classification*.

Hence a complementary law is required. This is the law of classification.

As the *Philosophy* of science can only be concerned with the most abstract and fundamental laws, it is not necessary to consider all the subjects of human knowledge, but only those which cannot be decomposed into simpler elements while they include, in an uncombined state, all the phenomena which are essential to the most complex as well as the simplest objects of study.

Only necessary to consider the most abstract, and fundamental conceptions.

CHAPTER II.

(II) LAW OF CLASSIFICATION.

The field of human labour is either speculation or action, and thus we divide our knowledge into *theoretical* and *practical*, Science and Art. At present we have only to do with the *theoretical*. As above observed, it is not necessary to treat of all human notions whatever, but only of

We are concerned only with theoretical knowledge.

* Thus about the time of Copernicus when Geometrical Astronomy was nearly perfect, Galileo was just commencing the science of Terrestrial Physics, while Chemistry was unable to advance owing to the want of a sound Physical basis. Biology was almost purely empirical.

those fundamental conceptions of the different orders of phenomena which furnish a solid basis to all combinations, and are not founded on any antecedent intellectual system. In such a study *speculation* is our material, and not the application of it, except when the application of it may happen to throw back light on its speculative origin.

Distinction
between
abstract and
concrete
sciences.

Again we must distinguish between the two classes of Natural Sciences—the *abstract*, or general, which have for their object the discovery of laws which regulate phenomena in all conceivable cases; and the *concrete*, particular, or descriptive, which are sometimes called Natural Sciences in a restricted sense, whose function it is to apply the laws of the abstract sciences to the actual history of existing beings.

Illustra-
tion.

Astronomy is an abstract science, being concerned with a distinct class of laws, *viz.*, the geometrical and mechanical laws which govern the heavenly bodies. Chemistry also is an abstract science, being concerned with the general laws which govern the decompositions and combinations of substances. Geology is a concrete and derived science, since it deals with no single class of laws, but borrows its solutions of the problems submitted to it from Astronomy, Chemistry, Physics, &c. Biology is a pure science, dealing with the general laws of life: but Botany and Zoology are concrete sciences, which deal with life in certain special forms. Mineralogy also is a concrete science, for it deals with a particular group of objects, and borrows its processes from the abstract sciences, such as Astronomy, Physics, Chemistry, &c.

Summary.

From the foregoing considerations it appears :

First.

First. That science being composed of theoretical knowledge and of practical knowledge, we are concerned only with *theoretical* knowledge.

Second.

Second. That theoretical knowledge, or science properly so called, being divided into general or abstract, and particular or concrete science, we have to deal only with the *general* or *abstract*.

To obtain a correct *principle of classification* for the sciences, we must compare the different orders of phenomena through which the laws of science are arrived at. What we have to determine is the *real dependence* of scientific studies. Now, this dependence can only result from that of the corresponding phenomena. All observable phenomena may be included within a very few natural categories, so arranged as that the study of each category may be grounded on the principal laws of the preceding, and serve as the basis of the next ensuing. This order is determined by the degree of *simplicity*, or, what comes to the same thing, of *generality* of their phenomena. Hence results their successive dependence. It is clear *à priori* that the most simple phenomena must be the most general, for whatever is observed in the greatest number of cases is of course most disengaged from the incidents of particular cases. We must begin then with the most general or simple phenomena, going on successively to the more particular or complex. This is the *rule*; we now proceed to examine the classification obtained by applying it.

Principle
of classification.

The rule
stated.

THE SCIENTIFIC SCALE.—(See Table B. at end).

THE SCIENTIFIC
SCALE.

First in the scale must be placed Mathematical Science. At present, Mathematics must be regarded less as a constituent part of Natural Philosophy, than as the true basis on which the whole of Natural Philosophy rests. Strictly speaking, however, it is both the one and the other. To us it is of less value for the knowledge of which it consists than as being the most powerful instrument that the human mind can employ in the investigation of the laws of natural phenomena.

1. Mathematics.

Mathematics must be divided into two great branches quite distinct from each other, *viz.*, (i) General Mathematics, or the Calculus, and (ii) Special Mathematics, composed of Geometry and Mechanics.—The Special is necessarily founded on the General, and in its turn becomes the basis of all Natural Philosophy.

General
and Special.

(i) Calculus, which is general.

The Calculus is purely instrumental, being simply an immense extension of natural logic to a certain order of deductions.

(ii) Geometry and Mechanics, which are special.

Geometry and Mechanics are true natural sciences, founded, like all others, on Observation, though by the extreme simplicity of their phenomena, a greater perfection of systematisation belongs to these two than to any of the other sciences. It is in consequence of this that the experimental character of their first principles has been too much lost sight of. Geometrical and Mechanical phenomena are the most general, the most simple, the most abstract of all—the most irreducible to others, the most independent of them, serving in fact as a basis to all others: it follows that the study of them is an indispensable preliminary to that of all others.

2. Inorganic Physics.

All bodies may be divided into *organized* and *unorganized*. The organized are more complex and less general than the unorganized, and depend upon them. Organic phenomena include all the qualities belonging to those which are Inorganic, with a special order added, *viz.*, Vital. Hence we must commence with *inorganic* phenomena.

Divided into celestial and terrestrial.

Inorganic Physics must, in accordance with our rule of generality and the order of dependence of phenomena, be divided into two sections—*viz.* (i) Celestial and (ii) Terrestrial. Thus we have Astronomy (Geometrical and Mechanical),* and Terrestrial Physics.

(i) Astronomy, or Celestial Physics.

Astronomical phenomena are the most general, simple, and abstract of all; hence the study of Natural Philosophy must begin with them. They are themselves independent, while the laws to which they are subject influence all others. In all Terrestrial phenomena the general effects of Gravitation are observed, and besides these certain other effects, which are peculiar to Terrestrial bodies, and which modify the effects of Gravitation.

* Comte prefers the terms *Geometrical* and *Mechanical* to the terms *Plane* and *Physical*.

It follows that the analysis of the simplest Terrestrial phenomenon, not only Chemical but even purely Mechanical, presents a greater complication than the most compound Astronomical phenomenon. The most difficult Astronomical question involves less intricacy than the calculation of the simple movement of even a solid body. Thus we see the necessity for separating Astronomy from Terrestrial Physics and for proceeding to the second only through the first, from which it is derived.

Why Astronomy must be separated from Terrestrial Physics.

In the case of Terrestrial Physics also we find a natural division into two, according as we regard bodies in their *mechanical* or their *chemical* character. Hence we have Physics, properly so called, and Chemistry.

(ii) Terrestrial Physics divided into Physics and Chemistry.

Again, Chemistry must be studied through Physics. Chemical phenomena are more complicated than Mechanical, and depend upon them, without influencing them in return. All Chemical action is influenced by Weight, Heat, Electricity, &c., and presents moreover something which modifies all these. Thus Chemistry must follow Physics, and will present itself as a distinct science.

Order—
(a) Physics,
(b) Chemistry.

Astronomy, Physics, and Chemistry are the three sciences which relate to inorganic matter. Summary.

We now proceed to the consideration of *organized* bodies. 3. Organic

In the case of *organized* bodies there are two orders of phenomena: those which relate to the *individual* and those which relate to the *species*. With regard to Man this distinction is fundamental. Those phenomena which relate to the species are evidently dependent on those which relate to the individual, considered physiologically, and are more complex than these last. Hence we have two great sections, *viz.*, Biology and Sociology. In all Social phenomena we perceive the working of the *physiological* laws of the individual, and moreover something which modifies their effect, and which belongs to the *influence of individuals over each other*, singularly complicated in the case of the human race by the influence of generations on their successors.

3. Organic Physics, including Biology and Sociology.

Order—
(i) Biology.
(ii) Sociology.

Thus Sociology must issue from the science which relates to the life of the individual. It must not, however, be regarded as a mere appendage to Biology. The phenomena of the two are not identical, though they are homogeneous. As Social conditions modify the operation of Physiological laws, Sociology must have a set of observations of its own.

Six fundamental sciences.

Hence we have six fundamental Sciences in successive dependence, *viz.*, Mathematics, Astronomy, Physics, Chemistry, Biology, and Sociology.*

Logic of the sciences.

These fundamental Sciences are not to be regarded as radically separate, but as all branches of the same trunk. In constituting a system of Positive Philosophy no one of them can be neglected. Each has its own value (i) as exhibiting in perfection some characteristic logical process, or (ii) as affording a basis for the sciences which are above it in the scale. Astronomy alone of all the sciences admits of complete subjection to Mathematical analysis: in it also the method of direct Observation is found in perfection. In Physics, Experiment is supreme. Chemistry is chiefly distinguished for bringing into prominence the art of Nomenclature. In Biology, or the study of living bodies, the method of Comparison acquires its full development. Comte regards the Historical Method, that is, the historical comparison of the consecutive states of humanity, as the chief scientific device of Sociology.

The historical order is the same.

The order in which the Abstract Sciences are arranged, in accordance with Comte's law of classification, will, upon examination, be found to correspond with the actual order of historical development.

Historical development of the sciences summarized.

Mathematical and Astronomical phenomena were those first subjected to scientific rules; and after considerable progress had been effected in these two departments, further advance was arrested for a while. Numerous attempts, however, were made in different directions, without leading

* The reason why Morals is omitted in the *Positive Philosophy* is explained in the note at p. 27. See also pp. 91, 92.

to definite results of any great importance, but valuable as clearing the way and indicating where failure might be expected. In Physics, beyond the discovery of a few elementary theorems, little was accomplished. The art of Medicine, which was urgently needed and therefore generally cultivated, led to a few unconnected principles in Biology, but when these had been attained, insurmountable difficulties presented themselves, and no additions to the science were made for many centuries. Prompted by the needs of such industrial arts as metallurgy, pharmacy, dyeing, &c., strenuous endeavours were made to lay the foundations of Chemistry, but, although many individual and highly interesting facts were collected, the only general doctrine framed was that of Alchemy. Similar remarks apply to Sociology :—till quite recent times, the *Politics* and *Ethics* of Aristotle were the best examples of the application of the scientific method to man's social and moral organization. During the time that these preliminary attempts were being made, the human mind had become strengthened, the Mathematical sciences had attained considerable perfection, while socially the condition of man had vastly improved under the two-fold influence of Roman law and Catholic morality. The path was now clear, War had in a great measure been superseded by Industry, and Faith was for a while to succumb to Reason flushed with recent victory. Department after department was quickly added to the domain of science ; Celestial Dynamics, Physics, Chemistry, Biology, Sociology were by degrees elaborated, till at length the whole cycle of phenomena became reduced to order and was shown to be subject to invariable laws.

Great as had been the advance of thought during the three centuries previous to Comte, yet nothing like unity had been introduced among our different scientific conceptions. To Comte belongs the signal merit of having discovered a general plan in those subjects where the combinations of circumstances were apparently fortuitous, and

of having shown that all the special sciences were interconnected, forming, as it were, branches of one great trunk. Sociology being rendered positive, all our fundamental conceptions become homogeneous, and the Positive stage is fully established. Man is now, for the first time, able to form a positive conception of the universe of things. Until Sociology had been brought within the domain of science, a Positive Philosophy was impossible, because Philosophy from its very nature must apply to the sum total of existence, must include both *man* and his *environment*. Positive science has existed from the earliest times, but the very idea of a Positive Philosophy could not be entertained till it became apparent that social phenomena admitted of scientific treatment.*

CHAPTER III.

CONCLUSION.

Comte's two fundamental laws of intellectual development are to History what the laws of motion are to Dynamics, or the law of gravitation to Mechanical Astronomy. These laws have been amply verified by their successful application to the whole field of human speculation. By their aid Comte has accounted so well for all the observed phenomena in the history of man, that the evidence in their favour may be considered quite as strong as that which we possess for any of the more generally acknowledged laws of nature. The only proof that can be obtained for *any* general law arises from the coincidence between the results of calculation as founded upon the law and the results of an accurate observation. This coincidence appears to many minds to have been fully established by Comte, who has shown by a thorough survey of history that the development of the human mind, as indicated by his fundamental principles, agrees with the observed facts as recorded in the history of

* I am indebted, for this brief historical summary, to a small pamphlet, entitled *Paroles de Philosophie Positive*, by M Littré.

mankind. The labour and learning which Comte has devoted to the accomplishment of his colossal task can only be thoroughly appreciated by those who will consent to follow him in his admirable exposition of the abstract sciences. Each science is made to yield a philosophy of its own by the co-ordination of the general truths peculiar to it, while each contributes its proper share to the formation of a general doctrine which is intended to regulate the whole body of man's belief, and to furnish him with a Philosophy (that is, a *conception of the universe*) which may in time supplant the heterogeneous systems of the past.

In working out the details of the plan, each science is fully characterized,—in its nature, its object, its means of investigation, its relation to the other sciences, its influence upon human progress, and its degree of possible perfection. Mr. Mill describes the result of these investigations as “that wonderful systematization of the philosophy of all the sciences, from Mathematics to Physiology, which, if he (Comte) had done nothing else, would have stamped him in all minds competent to appreciate it, as one of the principal thinkers of the age.”

The foregoing sketch has been taken from the *Positive Philosophy*, the earlier of Comte's two fundamental treatises, and the one in which the scientific point of view is put most prominently forward. As Comte advanced in life, his primitive views became considerably enlarged, and the tone of his writings underwent a corresponding change. Having in the *Positive Philosophy* arrived inductively at the laws of mental growth, he conceived that a sufficiently wide objective basis had been thus secured for constructing, by a purely deductive method,* a vast social and religious

* The adversaries of Comte maintain that his application of the deductive method to the re-construction of Society, was premature. On the other hand, it is asserted that any theory is better than none; in every department, the highest as well as the lowest, some consistent theory is absolutely necessary for the proper co-ordination of our materials: no harm can ensue from theorising by anticipation, so long as the hypotheses employed are such as admit of an ultimate verification.

system which should be adapted to the wants of man when the primitive theological beliefs had altogether disappeared. Endowed with an eminently systematic genius, and thoroughly averse from the moral anarchy of the age in which he lived, Comte was eventually induced to regard his scientific and philosophic labours as valuable only on account of their social destination. But there was no abrupt transition from his earlier to his later speculations. From the first his writings had been characterized by their organizing tendency, and his aspirations had always pointed towards a social end. Having succeeded, by means of his luminous philosophy, in modifying profoundly the scientific convictions of his contemporaries, it was but natural that he, an avowed reformer, should endeavour to introduce a regulating principle into the departments of Polity and Ethics. In the *Positive Politics* he has but realized the noble ideal which he had conceived, though dimly it may be, while yet an ardent disciple of the social reformer, St. Simon. In undertaking the task of reconstruction, he simply performed a solemn duty which he owed to his fellowmen; for having finally destroyed the basis of all that had hitherto been most revered, it was surely incumbent upon him to furnish a new theory, and to point out how that theory might be applied to the satisfaction of our most urgent social and religious wants. That he has completely succeeded in the task he undertook, it would be premature as yet to decide; but certainly his system deserves the careful consideration of all those who have lost confidence in the old beliefs, and yet feel the need of having some recognized principles to which they may adhere, and round which the scattered forces of Negatism may eventually rally.

Believing, as we do, that Positivism derives its chief strength from its social and moral elements, we have thought it advisable, in the following pages, to present our readers with an outline of the Positive doctrine under the form

which that doctrine assumed in the mind of Comte during his later years. Our materials have been almost wholly selected from the *Catechism*, as translated by Dr. Richard Congreve, the most eminent English representative of the school which has adopted Positivism in its integrity. No better source of information could, in our opinion, have been chosen, because the *Catechism* combines all the peculiar characteristics both of the *Positive Philosophy* and of the *Positive Politics*, and because this little* work was intended by Comte himself to furnish a popular exposition of his system under all its different aspects.*

* It will be seen from the list of sciences given at p. 22, that Morals is not directly included. In the *Catechism* and in the *Politique Positive*, Moral Science is treated separately, and is placed at the summit of the Scale. (See Table B. at end.) The omission of Morals in Comte's earlier work may be thus explained. The object of the Positive Philosophy was to discover the laws of man's *intellectual* and *active* development. In such an investigation it was not necessary to discuss Man's moral nature otherwise than incidentally. According to Comte's Cerebral Theory "the affective region of the brain has no direct communication with the external world. The latter influences the former through the intervention of the intellectual and active organs. Thus the mutual influence of families and generations cannot directly modify our inclinations: it can only affect them by the changes it works in our thoughts and actions. If our intellectual and practical condition were to remain unchanged, no alteration could take place in our moral state. . . . Reciprocally, our inclinations only affect our social evolution by modifying our opinions and our conduct. The whole normal advance of humanity, therefore, bears directly only upon our intellect and activity." (See *Politique Positive*, Vol. III, p. 11.)

PART II

CHAPTER I.

BASIS OF POSITIVISM.

The
Axioms of
Positivism.

The Philosophy of Positivism is based upon certain fundamental principles* which must be granted at the outset. These principles do not admit of proof, being as they are the ultimate elements upon which all reasoning depends. Their validity can only be tested by the results to which they lead;—results which should be not only satisfactory to the intellect, but also favourable to man's social and moral progress.†

We now proceed to notice the chief of these fundamental principles.

1. Posi-
tivism res-
tricts itself
to laws. It
does not
inquire
into causes,
either first
or final.

1st.—Positivism restricts its investigations to the real laws of the different phenomena that are open to observation, whether internal or external. The laws of phenomena are their unvarying relations of succession and resem-

* It is often said that Comte is a metaphysician, because he adopts certain metaphysical principles. That he has adopted such principles is true. He was obliged to start with certain axioms, and these axioms of course must be taken upon trust. He differs from the metaphysicians, inasmuch as he does not submit his fundamental principles to an elaborate discussion, endeavouring to refer them to principles still more fundamental, and continuing the process of reduction till the relative is at length swallowed up in the chaos of the absolute. For the evidence of his axioms Comte simply appeals to the experience of the past, and to the complete efficacy of the system which he has constructed by their aid. (See Table D.)

† Thus Comte rejects Idealism, because it is both anti-social and immoral.

blance, by which we are able to foresee some by virtue of our knowledge of others. Positivism puts aside, as absolutely beyond our reach and essentially conducive to no useful result, every inquiry into the *causes*, properly so called, either first or final, of any events whatsoever. In its theoretical conceptions, it never explains *why* a thing is; it limits itself to the question, *how* it is. But when it is pointing out the means of guiding our activity, it takes the contrary course, and puts forward in constant prominence the end to be attained, as in such cases the practical effect is certainly the result of an intelligent will.

Yet, though, in its direct results, vain, the search after causes was, at the outset, indispensable and inevitable as a substitute and a preparation for the knowledge of laws—a knowledge which presupposes a long previous introduction. Men sought the *why*, and could not find it; in the search they discovered the *how*, though they had not bent their studies immediately in that direction. Laws alone have any influence on our conduct,—hence the search after causes, when the laws are known, becomes as useless as it is chimerical.

2nd.—Positivism distinguishes between the *objective* and *subjective* elements. It does not attempt to account for the origin of these elements, but accepts the distinction between them as an ultimate fact. The *objective* element is all that is, or appears to be, external, and is often spoken of as the *outer world*. The *subjective* element is furnished by the mind itself.

Corresponding to this two-fold division there are two great categories, namely, (i) beings or existences in the outer world, and (ii) ideas or conceptions in the mind. The external world is *concrete*; it always furnishes complex units, groups of phenomena. The mind or understanding is the region of the *abstract*; the mind analyzes the materials furnished from without, separates phenomena from the objects to which they belong, and by means of theory or speculation maps out the external order upon an ideal plan.

Search after causes necessary at the outset.

2. The objective and subjective elements.

Beings or existences, and Ideas or conceptions.

Correspondence between the outer order and the mental representation of it.

As regards the correspondence that should obtain between the outward order and the mental representation of that order, it is not essential that this correspondence should be altogether complete. The degree in which the mental representation should approximate to an exact copy of the external type must be determined by our *practical wants*. These wants give us the standard of accuracy requisite for scientific prevision. So long as theory does not transgress the limit thus prescribed, there is generally left a certain freedom to the intellect, which may be employed for securing an ideal beauty and regularity for our conceptions without interfering with their adequacy for the purposes of prevision.

In the normal state the objective and subjective elements harmonize.

In the normal state, the subjective and objective elements should balance one another. The meaning of this may, perhaps, be rendered more clear by stating Comte's theory of madness and idiocy. According to Comte, madness and idiocy are two extreme states of the mind, each of which violates the due proportion which the sound state, or reason, requires to exist between the objective impressions and the subjective conceptions. Idiocy consists in the excess of objectivity. In it our brain is too passive. Madness consists in the excess of subjectivity, and is the consequence of an undue activity of the brain. The mean state itself, in which reason consists, varies according to the regular variations to which human existence in every form is subject, whether it be the society or the individual.*

Increasing preponderance of the objective element.

The growth of the individual, as well as the growth of the race, may be said to consist in the increasing preponderance of the objective element. At first human feeling

* Notice the marked analogy between this account of the mind's normal condition and Aristotle's theory of Virtue. According to Aristotle, Virtue is a mean or middle state between two opposite vices, one in excess and the other in defect. Thus courage is a mean between cowardice and rashness. The coward avoids all dangers, the rash man thrusts himself upon danger unnecessarily, the brave man neither shuns nor courts danger, but is ever willing and ready to encounter it when duty summons him.

and human will are everywhere predominant, all phenomena are subjected to them; but, by degrees, as the existence of an order in the outward world becomes more and more manifest, the purely human element is replaced by the idea of law, which, in the later stages of development, serves as a bond instead of the arbitrary will of a superior Being which at first served to connect the apparently confused phenomena of nature.

All our conceptions, being the necessary result of an uninterrupted intercourse between the world and man (the world supplying the materials, man shaping them) are essentially *relative*.* As the subject and the object vary respectively, so necessarily are the conceptions modified. Among all these modifications that only can be regarded as stable which secures the due subordination of Man to the World. Positivism endeavours to bring the natural subordination of Man to the World to the highest point of perfection. At this point, the Mind becomes the faithful mirror of the actual order of outward things, and then, by a right exercise of the intellectual powers, the future consequences of that order can be sufficiently well predicted.

All our
conceptions
are relative.

3rd.—Positivism assumes *the existence of an order which admits of no variation*, and to which all events of every kind are subject. This order is at once *objective* and *subjective*—it concerns equally the object contemplated and the subject which contemplates—physical laws imply logical or mental laws, and *vice versâ*. If our understanding itself obeyed no rule, it could not appreciate the external harmony. If there were no order in the external World, the regular action of

3. There
is an order
which
admits of
no varia-
tion.

* It should be carefully observed that Positivism makes no hypothesis as to the ultimate nature either of the mind or of the external world. It merely states a fact, namely, that the mind of man, in order to be duly exercised, requires nourishment from the outer world. This nourishment it receives and modifies so as to give rise to all the varied products of the understanding. In the same way the body receives from the animal and vegetable worlds those materials which, by certain vital processes, are converted into a form very different from that in which they originally existed.

Man would be impossible, the World, as it is, being more powerful than Man. That there is such an order can be shown as a fact, but it cannot be explained. Inexplicable itself, it furnishes the only possible source of any rational explanation. Such explanation always consists in bringing under general laws each particular event, which thus comes within the sphere of prevision based on systematic principles, such prevision being the distinctive end that all science proposes to itself.

Science
valuable
on account
of its power
of pre-
vision.

The real *value of science* consists in its enabling man to improve his condition, by controlling and modifying the circumstances which surround him. This end is attained by the aid of that power of prevision which science confers upon man. The past and the present when correctly decyphered afford a key by which the future may be unlocked and made to disclose its secrets. Science, so far as it does not lead to any improvement in man's moral or physical condition, is not merely useless but even mischievous. The intellect should be ever exercised with a view to *action* ultimately, and action in its turn should be under the control of morality. "To act from affection, and to think in order to act," is one of the distinctive maxims of Positivism. Action then being our ultimate aim, all scientific speculations which can obviously lead to no practical results should be discouraged. It is needless to endeavour to augment or ideally perfect a science when it has reached that stage in which its previsions are sufficiently accurate for all our practical needs. When empirical rules are perfect enough to include all the cases for which they may be required, it becomes a mere waste of labour to connect these rules by higher generalizations. Such labour may be spent more profitably in other directions. It has ever been the dream of scientific enthusiasts to make all our conceptions radiate from a single principle. The dream if realized would be useless; Comte has declared it to be not only useless but also incapable of realization.

Action our
ultimate
aim.

No single
ultimate
principle
from which
all our con-
ceptions
can be
deduced.

4th.—The true object of Philosophy is to connect as closely as possible all phenomena and all beings by effecting a *mental* unity between them. It is not an absolute, external, or in one word, *objective* unity that is required. The wish for an objective unity was compatible with the inquiry into causes: it is in direct contradiction with the study of laws; for by laws we mean invariable relations traced in widely varying phenomena. These relations admit of no unity but a purely relative and human one; in one word, a *subjective* unity. Laws cannot be reduced to unity by virtue of the impossibility of reducing under the other either of the two general elements of all our conceptions of things, namely the *world* and *man*. It is conceivable that we might succeed in condensing each of these two great objects of study around one single law of nature. Still, as even then the two must remain separate, scientific unity is unattainable.

4. A mental unity the only one possible.

But we are far from being able to establish any objective unity even within the limits of each of the two great kingdoms constituted by the World and Man. The various branches into which the study of the World or of Man is, for practical need, divided, reveal to us an increasing number of different laws. These laws will never be susceptible of reduction, the one under the other; they are for the most part still unknown; many must ever remain so. Still we know enough to be certain that all phenomena of whatever order are subject to invariable relations. When, however, the laws are unknown, they might as well be non-existent so far as our action is concerned. Our ignorance precludes all rational prevision, and as a consequence any regular interference. Still we may hope to discover, for each of the more important cases, empirical rules which, if insufficient from the theoretic point of view, may be sufficient to regulate our action.*

Empirical rules sufficient for practical purposes.

* For a complete list of the fifteen fundamental principles of Positivism, see Table D. at end. Comte gave the name of *Philosophia Prima* to this body of principles.

CHAPTER II.

LAWS OF THE INTELLECT.

Two classes
of laws—

Laws may be divided into two classes, namely, *statical* and *dynamical*, the former having reference to the *invariable element* in the object considered,* the latter relating to the *necessary variations* which occur in it.

(i) Statical.
(ii) Dynamical.

In any department of human study, the statical question necessarily precedes the dynamical. It is absolutely necessary to have determined what are the fundamental conditions of any existence, before we can pass to the consideration of the different states in which that existence successively appears. The ancients, seeing as they did no tendency to change any where, were completely without dynamical conceptions, even in Mathematics. But nevertheless Aristotle was able, even in his time, to lay down the laws essential for the study of all the highest branches of knowledge,—Life, Intellect, and Society,—so far as such study was statical. Such is the necessary course of things—the statical must precede the dynamical, but is incomplete without it.

(i) Statical.
First law.

The first *statical* law of our intellect is simply an application of that fundamental principle of Positivism which looks on man as in all cases subordinate to the world. It asserts *the constant subordination of our subjective constructions to the objective materials of those constructions*. This law is a re-

* These terms are borrowed from the science of Mechanics, in which the conditions of equilibrium are treated of apart from the phenomena of motion. The general problem considered in Statics is, 'To find the conditions that must be satisfied when any number of forces acting upon a body keep it at rest.' The general problem in Dynamics is, 'to find the velocity and direction of motion at each successive instant when any number of forces act upon a body.' The statical problem being the simpler of the two is investigated first, and necessarily so, inasmuch as many of our dynamical conceptions are suggested by corresponding statical ones, and could not be arrived at without their aid. Thus the law, that action is equal and opposite to reaction, is a simple axiom in Statics, but one which requires an elaborate series of experiments and a special interpretation before it can be accepted as a fundamental principle of Dynamics.

statement of the axiom '*There is nothing in the understanding that did not originally spring from sensation.*' This axiom has been often pressed too far, and our intelligence has been represented as purely passive. Hence Leibnitz added an essential restriction, the object of which was, definitely, to express the spontaneous character of our mental dispositions. Leibnitz's addition, *except the understanding*, was completed by Kant. Kant introduced *the distinction between objective and subjective reality*, both equally applicable to all our conceptions. Positivism gives the principle its full systematic value by connecting it with the general law which, in all vital phenomena, considers *every organism as in a constant dependence on the sum of external influences*. With regard to our highest spiritual functions, equally as with regard to our most corporeal ones, the external world serves us for nourishment, stimulus, and control.

The second *statical* law of our intellect is the necessary complement of the first: it consists in recognizing the fact that, in the normal state, *our subjective conceptions are always less vivid and less clear than the objective impressions from which they rise*. Were it otherwise, the world without could exert no controlling influence over the world within.

From a *dynamical* point of view, the fundamental law of our intellect is the law of the three stages, or, as it is otherwise termed, the law of filiation. (ii) Dynamical.

The law of filiation is, that every theoretical conception passes necessarily through three successive stages: The first is the Theological, or fictitious; the second, the Metaphysical, or abstract; the third, the Positive, or real. The first is always provisional; the second simply transitional; the third alone is definitive. The difference of this last from the two former is characterized by its substitution of the *relative* for the *absolute* when at length the study of laws has taken the place of the inquiry into causes. The only theoretical difference between the Theological and Metaphy- Law of filiation. (See p. 9).
The positive stage.
The theological and

metaphysical stages. sical stages is this, that the deities recognized by the first are reduced by the second to mere entities, or abstractions. The fictions of Theology, in consequence of this transformation, lose, together with their supernatural character, their strength and consistency. They become socially useless, and even mentally ; Metaphysics are at last nothing but simply a solvent of Theology. They can never organize even within their own domain. Metaphysics are revolutionary in their character, and solely adapted for modifying previous systems. They have no other effect, in the original evolution, whether of the individual or of society, but to facilitate the gradual passage from Theology to Positivism. They are the better suited for this transitional office, from the circumstance that their equivocal conceptions can take one or other of two shapes. They may become either the abstract representatives of supernatural agents, or general expressions for phenomena, according as the fictitious or the real stage in our progress is the one to which we are, for the time, the nearer.

Principle upon which the law of filiation rests.

The law of filiation rests upon the following intellectual principle, *That we are obliged to draw upon ourselves for the means of subjectively connecting our objective impressions.* (This principle is a consequence of the first statical law of our intellect.) Without a subjective connection, our objective impressions would always be incoherent. The real relations of things require, for their perception, a difficult and gradual analysis; and therefore our first hypotheses, being such as naturally suggested themselves, were of a fictitious character. This tendency to draw upon ourselves which would be now an excess of subjectivity, was at first quite in conformity with our mental state. For the evolution could not begin unless some step of the kind were taken. Long experience could alone show the absolute fruitlessness of the inquiry into causes. The insoluble problem of Causation exercised for a long time an invincible attraction, both in speculation and in action. In *speculation* it tempted us

The inquiry into causes at first necessary.

by the promise that we should always use the deductive method without requiring any special induction. In *action* it held out to us the prospect of modifying the world at pleasure. Hence we see that the two motives which originally impelled the thinker, are essentially coincident with those which will always guide us in our intellectual efforts. For the whole of sound logic is reducible to this one rule:—*Always form the simplest hypothesis compatible with the whole of the data.* This was the rule applied by the thinkers of the Theological period. Their object being to arrive at *causes*, they limited themselves to explaining the World by Man, the only possible source of any theoretic unity. And their explanation consisted in attributing all its phenomena to the action of superhuman Will. It was indifferent whether that Will resided in the phenomena or was external to them. The primitive Theology opened up to the human mind the only path which it could take under the conditions of the primitive state. It never, indeed, could lead to any determination of *causes*, but its provisional colligation of facts led, by a natural process, to the discovery of *laws*.

To complete the law of filiation, a second principle is required in order to connect our conceptions at *any one period*, and to account for the different rates at which they severally advanced towards perfection. This principle is given by the law of *classification*,* which points out the *unvarying order observed by our theoretical conceptions in their simultaneous growth, according as the phenomena, with which they are concerned, decrease in generality and increase in complication.* As phenomena are necessarily more simple the more general they are, the speculations

A law required to complete the law of filiation. This is the law of classification. (See p. 17).

* This law enables us to obviate an objection sometimes brought against the law of the three stages, *viz.*, that there are cases of frequent occurrence in which the human mind appears, at one and the same time, to be theological, metaphysical, and positive, according to the nature of the question on which it is engaged.

which concern such general phenomena must be easier, and therefore the progress in them more rapid.

Inequality
of progress
explained.

Hence certain theories remain in the Metaphysical stage, whilst others of a simpler nature have already reached the Positive stage; others again, still more complicated, remain in the Theological stage. But this process is never found to be inverted, a fact which affords a sufficient answer to the objection arising from the disparity of the several stages at any one time.

The law
considered
from a sub-
jective
point of
view.

The order of our conceptions resulting from the above law is the natural one. The law itself is the basis of logic, for it reveals to us the connection in which our different theoretical studies must follow one another, if they are to lead to any permanent construction. Each class of phenomena has, it is true, its special laws, which presuppose some particular inductions. Yet these inductions could never be of any real value were it not for the deductions previously supplied by the knowledge of simpler laws. This subjective subordination is the result of the objective dependence of the less general phenomena on those which are more general.

CHAPTER III.

HIERARCHY OF THE SCIENCES.

The theo-
retical hier-
archy.

The fundamental sciences have been termed by Comte a 'theoretical hierarchy,' the word *hierarchy* indicating at once the dignity of the conceptions involved, and the subordination which exists among them.

Limits of
its extent—
(i) Theory
and
(ii) Ab-
stract laws.
(See p. 17).

Before entering upon the exposition of this theoretical hierarchy, it will be necessary to indicate the limits of its extent. These limits depend primarily on the distinction between speculation and action, or theory and practice. Action must necessarily be *special*; true theory is always

general. It is with theory alone, therefore, that we are now concerned. But all theory is not to be included, as we require only those laws which must be regarded as ultimate. To reach these laws we must break up the study of *beings*, or *concrete existences*, into several separate studies. The object of these studies must be the various *general* phenomena which compose the existence of each being. By this method we obtain abstract laws which we can afterwards combine; and which, when combined, will enable us to explain each concrete existence. These abstract laws are very numerous, but they admit of no reduction; and are far less numerous than the special rules which depend upon them. Owing to the complication of the phenomena involved, these special rules are not amenable to our processes either of Induction or Deduction. We must, therefore, remain in ignorance concerning them; but our ignorance is of no moment, as to know them would be really useless, except in the rare cases in which they influence our destiny. For these exceptional cases the genius of practical men may always find rules sufficient for guidance, by taking advantage of the general indications furnished by science. The compound phenomena in question must be subject to regular laws, because the general elements of which they are compounded are subject to such laws.

Scientific rules rarely attainable; but, when not, empirical rules are sufficient.

To illustrate the preceding observations, we may adduce the laws of the atmosphere. We shall never know the general laws of the variations peculiar to the constitution of the atmosphere. Yet the sailor and the agriculturist can, from their observations of the locality or the weather, draw special rules, which, though empirical, supersede the necessity for the so-called science of Meteorology. The case is the same with all the other concrete branches of study, such as Geology, Zoology, and even Sociology. Whatever is inaccessible to the practical genius of Man will always remain a matter of mere idle curiosity.

Illustration.

Science
then neces-
sarily
abstract.

Science, then, in its proper sense, is necessarily *abstract*. The general laws it establishes for the few categories under which all observable phenomena may be brought, are sufficient to demonstrate the existence of concrete laws, though most of such laws neither can nor need be known, except for practical purposes.

Two modes
of proce-
dure:—
I—Objec-
tive.
II—Sub-
jective.

In examining our scientific conceptions there are two modes of procedure. I—We may ascend from the World to Man: this may be termed the *objective* method. II—We may descend from Man to the World: this may be termed the *subjective* method.

The two
methods
contrasted.

The *objective* method was the one necessarily adopted in the spontaneous elaboration of the sciences. So long as Theology and Metaphysics were the only sources from which the higher wants of our nature could receive satisfaction, the subjective and objective methods were at variance. But now, when the principle of a universal synthesis has been established, the opposition between the two methods has ceased, and either may be employed with equal security. It is only, however, by combining the two that we can secure the advantages of both, and neutralise their dangers. To ascend from the World up to Man, without having previously descended from Man to the World, is a course which leads to the excessive cultivation of the lower branches of study, by keeping out of sight their real scientific destination, namely, the improvement of man's social and moral condition. Our scientific efforts are in this case wasted on trifles, as adverse to the Intellect as to the Heart. The right connection of the whole, and the proper estimation of the parts, are sacrificed to reality and clearness. The *subjective* method is best adapted for originating the construction of the scientific hierarchy, whereas the objective method should be employed for working out the details.

Subjective Method.

By starting from the doctrine of Humanity it will be seen that a Moral and Social destination is secured for each of the essential branches of abstract science; at the same time it will not fail to be observed how, by bringing into connection all our different conceptions, this doctrine strengthens the highest and ennobles the lowest.

Starts from
the doc-
trine of
Humanity.

At the highest point of the scale is Moral Science, or the science of the individual Man. Morals, the most useful of all the sciences, is also the most complete, or rather it is the only one which is complete, since its phenomena *subjectively* embrace all the others, though, by that very fact, they are *objectively* subordinate to those others. The moral point of view is the most complicated and the most special.

1. Moral
Science.

Positivism bases Moral science more on the observation of others than of oneself, with the view of forming conceptions on moral subjects which shall be at once real and useful. Hence it is impossible properly to enter upon the study of Morals without a previous study of Society. Each of us depends entirely on Humanity, especially with regard to our noblest functions. These functions are always dependent on the time and place in which we live. Thus Morals lead at once to Sociology, in which the phenomena are both simpler and more general than those which relate to the individual Man.

Morals lead
to Socio-
logy.

To a superficial observer it might appear that the Moral point of view is simpler than the Social one. Such, however, is not the case; for Moral science must take into account the same influences as Social science does, and over and above these it must appreciate impulses which Social science may set aside as inappreciable. It must consider the influences of the mutual action of the *physical* and *moral* nature of man—an action which is constant, though its laws are as yet too little known. Sociology pays no particular attention to these influences, because the opposite results produced in different individuals cancel one another

2. Socio-
logy.
The social
point of
view sim-
pler than
the moral
one.

when nations are considered. But if, in Morals, we should neglect such mutual action, the most serious mistakes might result; we might attribute to the soul that which proceeds from the body, or *vice versâ*.

Rule by which we advance from one science to the next.

In advancing from one science to the next, we must always bear in mind the *natural subordination of the respective phenomena of the two sciences under consideration*. This fundamental principle makes it manifest that, for the systematic study of Society, a previous knowledge of the general laws of Life is required. As nations are beings gifted in an eminent degree with *life*, the natural result is, that the order of Life governs that of Society. The statical condition of Society, and its dynamical progress, would be completely altered, were the constitution of our brain or even of our body to change in any noticeable degree. In passing from the order of Society to the order of Life, the simultaneous increase of *generality* and *simplicity* in the phenomena dealt with admits of no doubt. Thus Sociology, which was constituted by Moral Science, constitutes in its turn Biology, which has, moreover, direct relations with the master science. Biology studies Life only in so far as it is common to all the beings which enjoy it. Animals, therefore, and Plants, form its proper province, though it is *ultimately destined for the service of man*. The true study of Man, however, it can only sketch in a rude outline. From this point of view, Biology, if wisely pursued, is occupied with the study of our bodily functions by the light derived from the study of Animals and Plants. In these, the bodily functions are seen cleared of all higher complications. This direction given to Biology for *logical* purposes, may at times lead to its laying too much stress on insignificant beings or acts. If so, Philosophy must step in with its discipline to recall it to its true vocation, namely, the *service of man*: but it must not fetter the inquiries indispensable to its success.

3. Biology.

These three sciences (namely, Morals, Sociology, and Biology), are so closely connected that they may be grouped together under one head. The middle one may be made to stand for the whole; since Sociology may be regarded as absorbing into itself Biology, as its introduction, and Morals, as its conclusion.

The three foregoing sciences may be grouped under one head—Sociology.

The three sciences included under Sociology deal with *living beings*. Now such beings, though rendered highly complex by the action of vital laws, are still bodies, and as such must obey the general laws of matter. These general laws invariably preponderate over all the peculiar laws of living beings, without, however, affecting their spontaneous action. Hence Sociology depends upon the sciences of Inorganic Matter: these sciences being all included under the single head *Cosmology*. The real domain of Cosmology is the general study of the Planet on which Man lives, the necessary sphere of all the higher functions, whether Vital, Social, or Moral.

Sociology depends on Cosmology.

Domain of Cosmology.

Cosmology may be divided into two fundamental sciences, Physics and Mathematics. The first of these has for its object the direct study of the whole order of matter. The second, simpler and more general, is the necessary basis of Physics, and, as such, of the whole scientific edifice. It treats of the most universal form of existence, viewed in relation solely to those phenomena which are found everywhere, namely, Number, Extension, and Motion. It is necessary to descend as far as Mathematics in order to find a natural basis for the scientific edifice, a basis which can make the whole appear but the gradual development of the good sense of mankind. Physics are far simpler than the other sciences; but yet are not simple enough. The special inductions of Physics cannot be reduced to a system without the aid of more general deductions. This is manifestly the case in the higher subjects. It is only in Mathematics that we can proceed to induction without previous deduction. This is a consequence of the extreme simplicity of the phenomena

Cosmology includes :
4. Physics.
5. Mathematics.

which form the domain of Mathematics. The process of induction is so simple that it often escapes notice, and hence the elementary principles of Mathematics have been regarded by the *à priori* school as independent of experience.

Value of the
subjective
method.

Principle
of ascent or
descent.

The Subjective Method, which proceeds from Man to the simplest phenomena, derives its chief value from the fact that it starts from and always keeps in view the moral object of the whole scientific elaboration, and thus obviates the repugnance felt by many for the converse method, which, starting from the most abstract sciences, appears to give too much prominence to the lower branches of study, and thus to sink, as it were, the human in the material element. But whether we descend or ascend, the theoretical order, in either case, rests upon the same principle, namely, the decrease of generality. All that is required is to refer the fundamental series, when used *objectively*, to the *phenomena*; and when used *subjectively*, to our own *conceptions*.

Morals sub-
jectively
the most
general
of all the
sciences.
Mathema-
tics objec-
tively the
most
general.

Moral notions subjectively comprehend all the lower ones which we reach by a course of successive abstractions. Hence Morals, from a subjective point of view, is the most general of all the sciences. Mathematics is the most general from the objective, and least general from the subjective, point of view—its generality is due solely to the simplicity of the phenomena involved. Mathematics is the only science applicable to every known form of existence, but it is the science which gives us the least knowledge of the beings with which it deals, for it can only reveal the commonest laws. The contrast above pointed out between Mathematics and Morals, presents itself, though in a less degree, in all the intermediate sciences. Take any two sciences, and it will be found that the lower one is always more extensive, but at the same time less comprehensive than the higher one—the former will include a greater number of objects than the latter, but it will tell us less about them.

Increasing
complexity

It has been remarked that the higher and more compli-

cated phenomena are subordinate to the lower and simpler. This subordination, however, is accompanied by an increase in the susceptibility of modification which renders the higher phenomena more subject to Man's control than the lower. Thus we have two complementary principles, namely, (i) increasing complexity accompanied by increasing dependence on the less complex; and (ii) increasing complexity accompanied by increasing susceptibility of modification.—It is owing to Man's *power of modification* that the order of the world admits of improvement. Now where there is room for improvement, imperfection must exist, and as a system of any kind increases in complexity so it is increasingly liable to imperfection, but this is compensated by Man's providence becoming at the same time more efficient, and having more varied agents at its command. Thus over the motions of a planet which are simple and regular, Man possesses no control; but over the winds and waves, of which the course is infinitely variable, he exerts an influence which enables him to make them to a considerable extent the obedient agents of his will. The compensation gained by this increase of control is still, however, inadequate: the simplest order, though unsusceptible of modification, generally remains the most perfect. Morals then must be regarded as the supreme art, not because it is the most perfect, but because it is the most important, and affords the largest sphere for judicious action.

is accompanied (i) by increasing dependence on the less complex, and (ii) by increasing susceptibility of modification.

Man's power of modification characterized.

The Value of a correct Classification of the Sciences.

1st.—Viewed *logically*, the series points out (i) the necessary course to be adopted in our scientific education, and (ii) the gradual formation of the true process of reasoning. Mainly *deductive* in Mathematics, the Positive Method becomes more and more *inductive* as the speculations with which it is concerned are of a higher order. In the sciences which succeed Mathematics, *four* principal steps must be noticed, the steps at which the growing complication of the phenomena

Logical value of the scientific series.

leads us to develop successively Observation, Experiment, Comparison, and Historical Filiation. In Mathematics we have simple Deduction; in Physics, Observation and Experiment also come into play; in Biology, Comparison is added to our other means of investigation; and in Sociology, the Historical Method is available, while the logical processes developed by the inferior sciences are still at our disposal. Thus each of the *five* logical phases naturally absorbs its predecessors, and does so in consequence of the natural subordination of the phenomena. Thus the Positive Logic is not complete till we reach Sociology, in which the Historical Method is first developed and the five organa of reasoning are simultaneously applicable.

To learn an art we must practise that art.

The only way to learn reasoning, is to reason with certainty and precision on clear and definite matter. Many who are quite aware that an art must be practised in order to be learnt, still listen to those who teach them to reason by reasoning about reasoning, or even to speak by speaking about speech. Deduction can only be properly understood by applying it in its proper province, Mathematics. Each of the *five* essential organa of reasoning must always be studied in that particular department of science which gave occasion to its introduction.

(ii) Scientific value of the series.

Positivist synthesis.

2nd.—Viewed *scientifically*, the series affords a *systematic conception of the whole order of the world*. From Inorganic Matter up to Morals, each term in the series rises on the basis of the preceding one; in obedience to this fundamental principle, ‘the noblest phenomena are, in all cases, subordinate to the lowest.’ This is the only universal law discovered by the objective study of the World and Man. But as it cannot supersede the necessity of less general laws, it cannot by itself constitute the barren external unity vainly sought for from Thales downwards. Positivism renounces the search for an external unity, and restricts itself to the synthesis obtained by *making all our scientific efforts contribute to a moral purpose*.

Objective Method.

Regarding the scientific series from an *objective* point of view, we commence with the lower subjects of study and advance from them to the highest investigations. Such a method is the one best adapted for dogmatic purposes, as it commences with the simplest phenomena and gradually ascends to those which are most complex. When our object is to show the purely human destination of all knowledge, it is best to begin with Man and work downwards; but when we wish to convey instruction and to characterize fully each science apart from the rest, it conduces to clearness and precision if we start from the bottom of the series, ascending by degrees from Matter considered with reference to its simplest attributes up to Man.

Adopting this plan, we must commence our exposition with an estimate of the nature and value of Mathematical science.—(See Table B. at end).

When preferable.

Will be applied in what follows.

CHAPTER IV.

MATHEMATICS.

Mathematics, which form the logical and scientific basis of the whole edifice of abstract science, deal directly with universal existence, when reduced to its simplest and consequently lowest phenomena, the phenomena on which necessarily rest all other real attributes of that existence. These fundamental properties of any being whatever are Number, Extension, and Movement. Whatever cannot be considered under these three points of view can have no existence except in our Understanding. But nature shows us many beings* of whom we can know nothing beyond these ele-

Range of Mathematics.

* The term 'objects' is perhaps more familiar to the English reader than 'beings.' The term *being* is not employed by Comte in its metaphysical sense. He sometimes uses it to denote an abstraction, but always an abstraction with a definite concrete basis. Thus, the Family, the City, the Country, and Humanity, are all *Beings*. A *being*, with Comte, is a *concrete existence*.

mentary attributes. Such are the stars, which, from their distance, are only accessible to us by sight, and admit, therefore, only of mathematical study—such study, however, being quite sufficient to form a proper guide as to our true relations towards them. Hence it is that Astronomy furnishes the most direct and complete application of Mathematical science. Still if the general laws of Number, Extension, and Motion could have been studied nowhere but in the heavenly bodies, they never would have been discovered, extremely simple though they be. But being found everywhere, they were open to discovery in more accessible cases: it was only necessary to put aside by a series of unconscious abstractions the other attributes of Matter which complicated the question.

Three subdivisions—
(i) Calculus,
(ii) Geometry,
(iii) Mechanics.

In accordance with our fundamental law of classification,* Mathematics cannot be reduced to less than three constituent parts—the Calculus, Geometry, and Mechanics. These three are a progressive series, from the historical no less than the dogmatical point of view, a series essentially analogous to that which is seen on a larger scale in the whole of the abstract system. The ideas of Number are certainly more universal and simpler than those even of Extension, and these on the same ground, in their turn, precede those of Motion. In the case of most of the stars, our real knowledge cannot extend beyond an accurate enumeration. We cannot even say what their shape or size is, nor are we concerned with such speculations. *Phenomena* as well as *beings* admit the numerical point of view. A knowledge of numerical relations still leaves things indistinct, but Number is the only universal category, since there are none of our thoughts but come under it. In the case of Motion it is easy to see the increase of complication and the decrease of generality which make Mechanics the highest part of the domain of Mathematics. The Greeks, for-

* This law enables us to assign the correct internal distribution of each special science, as naturally as it leads to the general co-ordination of all the sciences.

ward as they were in Geometry, never advanced in Mechanics beyond a few simple cases of equilibrium: they never had a glimpse of the elementary Laws of Motion.

If we compare the three essential parts of Mathematics, we see that the Calculus (of which Algebra, rather than Arithmetic, is the principal development), has a logical destination over and above its peculiar and direct use. From the *logical* point of view it serves to enlarge to the utmost our power of Deduction. The study of Extension and Motion acquires, by the introduction of the Calculus, a character of generality and coherence, which it could not have unless the problems involved were transformed into mere questions of Number. From the *scientific* point of view, on the other hand, Geometry and Mechanics must be regarded as mainly constituting Mathematics; for they, and they alone, enable us directly to form our theory of universal existence, such existence being viewed as passive in Geometry, as active in Mechanics.

The value, both *logical* and *scientific*, of the three branches.

Mechanics, then, take an important position, as the necessary transition between Mathematics and Physics, the peculiar characteristics of both these latter being found in close combination in Mechanics. In Mechanics, Logic is seen to be no longer purely Deductive (as it was supposed to be in Geometry, owing to the extreme facility of making the required inductions), but we begin to feel distinctly the need of an Inductive basis—a basis which it is not easy to discover amongst our concrete observations. Such a basis is necessary in order to regulate the abstract conceptions which are to connect the general problem of the composition and communication of motion with the actual cases as they exist in nature:—it was the want of this external foundation which prevented Mechanics, as a science, from being developed till the 17th century.

Value of Mechanics.

At the beginning of the 17th century the two first Laws of Motion were discovered.* These are sufficient to solve

The discovery of the Laws of Motion.

* The second law was discovered by Galileo (1564-1642). Comte ascribes the discovery of the first law to Kepler (1571-1630.)

Laws of
nature.

all problems in which a single particle alone is concerned. The third law, which was discovered by Newton, is only needed when the mutual actions of different bodies are taken into consideration. These fundamental laws should be thoroughly mastered on account of their importance and universality. They are the laws in which the need of an objective basis for our subjective constructions is first plainly manifested. They are the best types of all true laws of nature, which are nothing but general facts, allowing of no explanation, but serving as the starting point for all explanations which are at once rational and useful. Their discovery—retarded by the prevalence of crude metaphysical conceptions which dispensed with an adequate objective basis—may be considered as the first capital effort of the genius of Induction, enabled at length to discern, in the midst of the commonest events, general relations which had hitherto escaped all the efforts of man's intellectual activity.

The *first*
law.

The *first* law is this:—A particle at rest will continue at rest, and if in motion will continue to move in a straight line and with a uniform velocity, unless acted upon by an external force. It follows from this that motion, which is curvilinear or not uniform, can only result from some extraneous impulse; a particle of matter has no power within itself of altering or influencing its state of rest or motion.

The *second*
law.

The *second* law* asserts the independence of the movements of the bodies that form parts of a system—the independence that is, in regard to their movement in common as a system. This common movement must be complete as well in velocity as in direction, hence it must be uniform and rectilinear: if it were rotatory, the velocities with which the different particles would be animated in consequence of the common motion would be different, and the particles which

* The law may be thus stated: "If all the particles of a system have uniform and equal velocities, and move in parallel directions, and if one of these particles be acted on by any force, its motion relative to the other particles will be the same as if the common motion of the system did not exist, and the particle in question were acted on by the same force acting in the same direction."

combine to form the whole system would not remain in the same state of relative rest or motion, as if the plane in which the system is situated were at rest. The *third* law The third law. establishes that in every case of contact, action is always accompanied by equal and opposite reaction, provided that in measuring every change, proper regard be paid to the mass as well as to the velocity of the impinging particles. This third law is the basis of all conceptions relating to the communication of motion, just as the *second* law is of those The scope of the three laws. that concern its composition, whilst the first law determines what each motion is separately in itself. These three laws together are sufficient to enable us to enter on a deductive solution of the general problem of Mechanics, by bringing the more complicated cases under the more simple.

It should be remarked how each of these laws naturally The extended application of these laws. ranges itself under a law common to all phenomena whatever, to social and moral quite as much as to simply material phenomena. The *first* law is but a particular case of the *law of persistence* which we trace everywhere. There is a tendency in all cases to maintain the *status in quo*, and this tendency can only be overcome by an adequate impulse. The *second* law corresponds with that more general principle which recognizes the independence of the action of the part as regards the conditions common to the whole. By this principle it becomes possible in social questions to reconcile order with progress. The *third* law is at once universally applicable, the application varying only so far as the influences concerned vary.

CHAPTER V.

PHYSICS.

Astronomy, Physics, Chemistry.

The term 'Physics' is applied to the whole group of *Cos-* Extent of the term Physics.
mological sciences. This group contains *three* really dis-

tinct sciences, namely, (1) Astronomy, (2) Physics (properly so called), and (3) Chemistry.

(1) Astronomy: its definition and domain.

Astronomy may be defined as the study of the Earth, regarded as one of the heavenly bodies. It deals with the *geometrical* and *mechanical* relations of the Earth to the other stars, so far as such relations can affect our destinies by influencing the state of the Earth. Positivism condenses all Astronomical speculations round our globe as a centre, and absolutely rejects all theories which are unconnected with our own planet. Such theories, which have no human end in view, are mere idle questions. Hence Positivism eliminates both the so-called Sidereal Astronomy, and all Planetary studies which concern bodies invisible to the naked eye, and which have consequently no real influence on the earth. The true domain of Astronomy should now, as at the commencement of the science, be limited to the *five* Planets which have been always known, together with the Sun, equally the centre of their movements as of the Earth's, and the Moon, our only satellite in the heavens.

Influence (i) of the doctrine of Earth's double movement, and (ii) of the principle of Gravitation.

According to the ancients, the Earth was the actual centre of the universe, with us it is only a centre subjectively. Hence here, as elsewhere, the difference between the Positive doctrine and the ancient one consists essentially in the substitution of the relative for the absolute, a centre which was long objective becoming at length purely subjective. The change from the old doctrine to the present one (which regards the Earth as endowed with a double movement), is the most important of all the revolutions in science that took place whilst human reason was yet in its preliminary state, for it rendered the dogmas of Positive science directly incompatible with those of any Theology. The knowledge of the Motion of the Earth has overthrown the very foundation of the doctrine, which supposed the universe to be subordinated to our globe and therefore to man. Since Newton's time, the development of Celestial Mechanics has deprived Theological Philosophy of its principal intellectual

office, by proving that the order maintained throughout our system and the whole universe may be secured by the simple Gravitation of the parts. Positivism regards the doctrine of the Earth's Motion and the Principle of Gravitation as together constituting the primary general basis for the direct study of the order of the material world, which is thus brought into immediate connection with the Mathematical foundations of the whole system.

In Astronomy, the point of view from which we regard the external world is simply that of Geometry and Mechanics. But when we pass from Astronomy to Physics, properly so called, we penetrate more deeply into the study of inert nature. In order to obtain a true idea of Physics, we must first gain a conception of Chemistry, the highest Cosmological science. We adopt this plan because Chemistry has a more decided character than pure Physics, and we are thus enabled to grasp the latter more easily than if we had approached them directly. This procedure is also in accordance with that most important logical precept of Positivism, which bids us, in all cases, *look first to the two extremes if we wish to form a right conception of the intermediate step by which they are united.* ^{(2) Physics and (3) Chemistry.} ^{Important logical precept.} Chemistry and Physics deal, in the main, with the same general influences. The difference between them really consists in the greater or less intensity of the modifications which the constitution of matter undergoes when subjected to Chemical and Physical changes respectively. But though this is the only difference, there is never any room for doubt as to the true nature of each case. At their highest intensity, states of Heat, of Electricity, even of Light, modify the constitution of matter so far as to change the internal composition of substances. Such cases are within the province of Chemistry, since they come under the general laws of Composition and Decomposition. At a lower degree of intensity the influences above mentioned can only *modify* the condition of bodies, they cannot *alter their substance*. In

such cases, matter is studied under the strictly Physical aspect. The two sciences, Physics and Chemistry, are equally universal, but the decrease of generality is as sensible as the increase of complication, when we pass from the one to the other. For Physics, as they study the whole of the properties which make up *every* material existence, look on all bodies as the *same in kind*, the only difference considered is one of degree. The several branches of Physics must then correspond to the different senses by which we gain a knowledge of the external world. These branches are Barology (or the science of Weight), Thermology (or the science of Heat), Acoustics, Optics, and Electricity. Chemistry looks on all substances as in their nature *distinct*, and addresses itself chiefly to the problem of determining their radical differences; the phenomena which it studies are always possible in any given body; but they are practically never found in it, except under special conditions.

Of these two neighbour sciences, Physics may be regarded as *logically*, and Chemistry as *scientifically*, the most important. It is in Physics that the genius of Induction finds its free career, by the development of Observation (which was too spontaneous in Astronomy), and of Experiment, which nowhere else leads to such unequivocal results. But Chemistry claims the superiority when we consider the general importance of the *notions* derived from it. Its extreme imperfection as a science has not prevented its throwing a strong light and exercising a powerful influence upon modern thought. Its opposition to all Theological Philosophy is marked by the two general facts in which it has a share with all the rest of Positive Philosophy—(i) the *prevision of phenomena*, and (ii) our *voluntary modification of them*. In Chemistry, our *modifying power* is so strong that the greater part of Chemical phenomena owe their existence to human intervention, by which alone circumstances can be suitably arranged for their production.

Physics and Chemistry, both universal.

In Physics, all substances are regarded as the same in kind.

Branches of Physics.

In Chemistry, all substances are regarded as distinct.

The relative value, both logical and scientific, of these two sciences.

In considering Man's action upon Nature, Chemistry must ever be regarded as the chief source of power, though all the fundamental sciences contribute their share more or less. In this way Chemistry effectually discredits the notion of the rule of a *providential will* among its phenomena. But there is another way in which it acts no less strongly, viz., by abolishing the idea of *destruction* and *creation* in Nature. Before any thing was known of gaseous materials and products, many striking appearances must have inspired the idea of the real annihilation or production of matter in the general system of Nature. These ideas could not yield to the true conception (namely that of *composition and decomposition*) till we had decomposed air and water, and then analyzed vegetable and animal substances, and then finished with the analysis of alkalies and earths, thus exhibiting the fundamental principle of the *indefinite perpetuity of matter*. The analysis of animal and vegetable substances has proved that the material elements of which all real beings, lifeless as well as living, are composed, are essentially identical; and the result of the analysis has been to substitute a conception of the fundamental economy of Nature radically different from that which obtained previously.

Chemistry discredits the idea (i) of a providential will, and (ii) of creation and destruction.

The elements of lifeless and living substances are essentially identical.

Chemistry forms the transition between Cosmology and Biology. In Astronomy, we have only the simple mathematical existence. In Physics, we rise to phenomena of a higher order and which admit of a closer examination; we take a decided step in advance towards Man. Lastly, in Chemistry we deal with the noblest and most widely spread form of merely natural existence. It remains for us to trace the connection between Life and Inorganic Matter.

Chemistry forms the transition between Cosmology and Biology.

CHAPTER VI.

BIOLOGY.

Vital phenomena characterized.

The only phenomena really common to all living beings are those of the *decomposition* and *recomposition* of their substance, which they are constantly undergoing from the action upon them of external influences. Hence our whole system of Vital functions rests on acts which have a strong analogy with Chemical results. The only real difference lies in the greater instability of combination. In the Vital phenomena, the combinations are also more complicated. The simple and fundamental life—that in which decomposition and recomposition are the exclusive phenomena—is found only in the *vegetable*. There it reaches its highest development. For plants can directly assimilate inorganic materials, and change them into organic substances. This is never the case with higher beings. In fact the general definition of *animal* life is, that it *derives its nourishment from living substances*. Hence, as necessary conditions, the capacity of discerning these substances, and the power of procuring them—or, *sensibility* and *contractility*.

The vegetable life.

The animal life.

Bichat's distinction between cellular and neuro-muscular tissues.

This fundamental analysis, which we owe to Bichat,* must be supplemented by another conception which was also furnished by that great anatomist. The *cellular* tissue alone is universal, and forms the proper seat of *vegetable* life. *Animal* life resides in the *nervous* and *muscular* tissues.

Vegetable life the basis of Biology.

In obedience to that precept which bids us study all phenomena in the beings where they are most strongly marked and most free from complication with higher phenomena, the theory of Vegetable Life becomes the normal basis of Biology. It establishes directly the general laws of

* BICHAT, MARIE FRANCOIS XAVIER, an eminent French anatomist and physiologist, was born in 1771. He ruined his health through his intense devotion to biological studies; and died, in 1802, at the early age of thirty. He was the first, by a systematic analysis, to reduce the complex structures of the body to their elementary tissues, and to ascertain the properties—physical, chemical, and vital—which belong to each simple tissue. His chief works are the *Anatomie Générale*, the *Anatomic Descriptive*, and the *Recherches Physiologiques sur la Vie et la Mort*.

nutrition by a consideration of the case to which they apply in their simplest and intensest forms. The theory of Vegetable life is the natural transition from Matter to Life.

Starting from the simple life of the Vegetable we ascend through an immense scale of organisms up to the true type of life, Man. If the two extremes, namely, the Plant and Man, alone existed (a supposition which in no way involves a contradiction), then our scientific unity would become impossible, or at any rate very imperfect, in consequence of the sudden break in our construction. But the immense variety of animal organisms enables us to establish between the lowest form of life and the highest, as gradual a transition as our intelligence can require. Still this concrete series is necessarily *not continuous* by virtue of the fundamental law which, while it allows of secondary variations, yet *keeps each species permanently distinct*. As we only study Animals in order to gain a sounder knowledge of Man by tracing through them his connection with Plants, it is not necessary to include in our series every species, but only so many as may enable us to furnish a tolerably continuous scale of beings from the Vegetable up to Man. The Animals, which are really links in our chain, tend to throw light on the general study of all our lower functions, as we can, in them, trace each function as it gradually becomes more simple or more complicated. Man's existence is really but the highest step in Animal life.

We shall now proceed to characterize the two fundamental forms of life, namely, the *vegetable* and the *animal*. In each case we shall find three great laws operating. These laws are to be regarded as so many general facts, subordinate to one another, but completely distinct. Taken together they explain both the *continuous* functions of the life of Nutrition and the *intermittent* functions of the life of Relation. (See Table A. at end).

(1.) The *Vegetable Life*. (i)—The *first* law of Vegetable Life, the necessary basis of all our study of life, without any

The scale
of Life.

The funda-
mental
laws
of Life.

(1) Those
which
govern the

vegetable
life.

exception for the case of Man, consists in the *renewal of its substance which every living being constantly requires*. (ii)—The *second* fundamental law is that of *growth and decay, ending in death*. Death is not itself the necessary consequence of life, but it is everywhere the constant result of it. (iii)—The *third* law is that of *reproduction*, by which the preservation of the species compensates the loss of the individual. The most important property common to all living beings is the aptitude each has to produce offspring similar to itself, as it in turn was produced by similar parents. Not merely is it true, that no organic existence ever sprung from inorganic nature; but further, no species of any kind can spring from one of a different kind, either inferior or superior. The limits of the exceptions to this rule are very narrow. There is then a really impassable gulf between the worlds of Life and of Matter, and even, though less broad, between the different forms of vitality.

(2) Those
which
govern the
animal life.

(2.) The *Animal* life. (i)—The *first* law of Animal Life consists in the *need of alternate exercise and rest* which is felt throughout the whole life of creation, with no exception for our noblest attributes. (ii)—The *second* law, which here, as elsewhere, presupposes the preceding one, without being a consequence from it, proclaims *the tendency of each of these intermittent functions to habitual exercise*—that is to say, the function has an inherent tendency to reproduce itself spontaneously when the original impulse has ceased. This law, the law of *habit*, finds its natural complement in that of *imitation*, nor are the two really distinct. The aptitude to imitate others is but the result of the aptitude to imitate oneself, at least in every species capable of sympathy. (iii)—The *third* law of animal life, in subordination to that of habit, consists in the *capacity of improvement, both in the statical and dynamical point of view, inherent in all the phenomena of relation*. In all alike, exercise strengthens the functions and organs, prolonged disuse tends to weaken them. This last law rests upon the two others, but is dis-

inct from them: it sums up the whole theory of *animal life*, as the law of *reproduction* sums up that of *vegetable life*.

By a combination of the *law of reproduction* with the *law of progress* we obtain a *seventh* law, namely, that of *hereditary transmission*. As every function or structure in the Animal world is perfectible up to a certain point, it is clear that every being's capability of reproducing its like may fix in the species the modifications which have taken place in the individual, supposing those modifications to have taken sufficient root. It follows that there is a power of improvement, limited but continuous, dynamical in the main, but also statical, in every race whatever, each generation in succession contributing its quota. This important faculty is susceptible of greater development in proportion as the race is higher. For by being higher it more readily admits of modifications, as it is also more active by virtue of its greater complication. Although the general laws which regulate *hereditary transmission* are as yet but little known, the above considerations indicate the high efficacy of the principle as regards the direct amelioration of man's nature, his Physical, Intellectual, and above all his Moral nature. It is an indisputable fact that Hereditary Transmission is as applicable to our *noblest* attributes as to our lowest. For phenomena become more susceptible of modification, and consequently of improvement, in proportion as they are by nature higher and more special.

A seventh law, viz., the law of Hereditary Transmission.

Hence the power of improvement.

Importance of this law.

CHAPTER VII.

SOCIOLOGY—STATICAL.

Sociology is made up of two essential parts: the one *statical*, or the Theory of Order; the other *dynamical*, or the Theory of Progress. These two halves are bound together by the fundamental principle—*progress is the development of order*.

Sociology, divided into Statical and Dynamical.

Society has three essential elements:—
 (1) Woman,
 (2) Priesthood,
 (3) Active Class.

Since Society represents the general existence of Humanity, it must exhibit a combination of all the distinctive attributes of Man. These attributes are Feeling, Intelligence, and Action. Hence we have in Society three essential elements: (1) the *affective* class, or Woman; (2) the *contemplative* class, or Priesthood; (3) the *active* class,* or Proletariate. This arrangement of the classes is according to their decrease in dignity, and increase in independence. The *active* class is the necessary basis of the whole economy of Humanity, in obedience to the law, that the *noblest attributes are in all cases subordinate to [i. e. rest upon] the lowest.*

Influence of action on Society.

The unintermitting wants which are the result of our bodily constitution, enforce on Humanity an amount of *action* which constitutes the most marked feature in its existence. For developing this Activity the need of *co-operation* becomes constantly greater. Hence *action*, while constituting the most powerful stimulant of our *intelligence*, supplies the strongest excitement to our *sociability*.

Activity, at first *egoistical*, becomes by slow degrees *unselfish*.

Hence the active class must be subdivided into
 (i) *Patriciate*,
 (ii) *Proletariate*.

Still, as Activity must always originate in a personal impulse, such origin will at first stamp it with a profoundly *egoistical* character. This can only become *altruistic*, or *unselfish*, by a gradual transformation due to the development of the social impulse. Hence the *active class* must be broken up into two constituent parts, always distinct, and often in opposition the one to the other. These are, (i) the *Patriciate*, or holders of wealth, who are mainly influenced by the *personal* impulse; and (ii) the *Proletariate*, whose power lies in its numerical superiority and strong *social* instincts.

(i) The *Patriciate*.

The power of Wealth can only tell indirectly, still, it is generally the stronger and has a tendency to become more and more so, representing as it does the *continuity* of our race—the material treasures which Humanity entrusts to

* The Active class, as will be seen below, is divided into the *Patriciate* and the *Proletariate*: but the latter of these is the characteristic one, and by far the more numerous of the two.

the rich, being the results of a long antecedent accumulation. In the Patriciate is invested the control of the capital of the race, the great nutritive reservoirs, the social efficiency of which mainly depends on their being concentrated in few hands.

The second Practical element, without which the first would be nothing, is the Proletariate, which of necessity forms the great body of every nation. ^{(ii) The Proletariate.} Its only means of gaining social influence is *union*. By the force of its position, the attention of the Proletariate is mainly directed at all times, on the *moral* regulation of an economy, any disturbance of which falls most especially on it.

The supervision or guardianship exercised by the three great classes of Society constitutes Human Providence. ^{Human providence is three-fold.} (a)—First comes the Providence of *Woman*, the power which, through our whole life, presides over our moral growth. It directs education during the period in which it proceeds unsystematically in the bosom of the family. (b)—Next, the Providence of the *Priesthood* teaches us to systematize our conceptions of the nature and destiny of Humanity. This it does by disclosing to us, step by step, the order of the World, its Material, Social, and Moral order. (c)—Lastly, we come into direct contact with, and obedience to, the power of the *material* Providence—the *Patriciate* and the *Proletariate*. We are initiated by it into Practical life, and our preparation is completed by the influence of Active life on our Affections and Thoughts.

To get a better idea of this constitution of society, we must consider, separately, its two most special elements ^{The two special elements are the Priesthood and the Patriciate.} (the only classes properly so called), the *priesthood* which counsels, and the *patriciate* which commands. These two classes respectively are to preserve, increase, and distribute the *spiritual* and *material* treasures of Humanity.

The Theoretical Class, in the first place, furnishes us with a systematic *education*; secondly, it possesses a *consultative* ^{The office of the Priesthood.} influence over the whole of life, thus bringing the action

of each individual into harmony with the actions of the rest. Spiritual Wealth is imperishable, and as such admits of being enjoyed by all without being exhausted; so that to preserve it no distribution is needed, its preservation is but a simple adjunct of the priestly office.

Province
of the
Patriciate.

Material Products are destined for individual use, and are, by their nature, perishable. Hence the laws of their preservation and use are totally different. *Material products* form the province of the Patriciate, as a body, aided by the general superintendence of Society. It is, moreover, necessary that they should be appropriated to individuals; for otherwise they cannot be concentrated, as they ought to be. This appropriation of Material Products gives rise to the institution of Property, the primary basis of the Material Providence. In order that Property may have the requisite degree of stability, it must rest on the Land; for the Land is naturally the *seat*, as it is necessarily the *source*, of all actual production. Thus by a natural process are formed, in the course of generations, the *nutritive reservoirs* of Humanity. Their permanent destination is the constant renewal of Man's existence. Those in whose hands the control of these reservoirs is placed have to direct the labours required by this process.

Office of
the Patri-
ciate.

The main office of the Patriciate consists in *restoring to each man the materials which he is constantly consuming in the service of society*, either as provisions for his subsistence, or as the instruments by which he discharges his functions. Wages, rightly viewed, have no other function whatever to the class that receives them. The *labour* of Man (that is to say, *the successful efforts man makes to modify his destiny*) is really never otherwise than gratuitous. It does not admit of—it does not require any payment in the strict sense. The term *equivalent* is appropriate when we are dealing with the materials of labour; it is inapplicable when we are considering the relation of the labourer to his work.—This is a truth which has always

Wages.

been recognised by the Affective sex and the Contemplative class, and also in the case of that portion of the Active class which pays the wages of the rest. The inherently gratuitous character of labour is disputed only in the case of the Proletariate, who receive the least. This anomaly is due not to any inferiority of the class in question, but, as history proves, to the long servitude of its members. Positivism would overcome this prejudice by enforcing upon all a conviction that individual services never admit of any other reward than the satisfaction of rendering them, and the grateful feeling they excite.

To complete our fundamental view of the constitution of Society, it remains for us to explain the three forms it may take, or the *three associations* which, rising one above the other, are the natural out-growth of man's social nature.

The three fundamental forms of human association.

Every Association necessarily contains three elements, analogous to Feeling, Action, and Intelligence in the individual. These constituent parts have more or less of a marked character, and consequently are more or less distinct, according to the nature and extent of the society under consideration. Their respective predominance leads us to recognise three different forms of human association—the Family, the City, and the Church. Their order is determined by the decreasing closeness of the union, and their increasing extent. The intermediate one rests on its predecessor, and is the basis of the one that follows.

(i)—The only one where the natural foundation is *love*, the *Family*, is the closest in point of union, the narrowest in extent, and is the necessary basis of the two others. (i) The Family.
(ii) The City.
(iii) The Church.

(ii)—Man's action next leads to the formation of the *City*. The bond in this case results from an habitual *co-operation*, the sense of which would be too weak if this political association were to include too large a number of families. Co-operation is the City bond.

(iii)—Lastly comes the *Church*. Here the essential bond is *faith*. Faith is the Church bond. The Church alone can be really

universal. These three forms have, as their respective centres, the Woman, the Patriciate, and the Priesthood.

The Church
susceptible
of varia-
tion.

We are all members of a Family, and that Family is always part of some City, and even of some Church. But the Church tie is weaker than either the Family, or the City tie; and hence the Church is susceptible of considerable variation, though always within fixed limits.

When the
Church is
organized,
the limits
of the City
will be
reduced.

When the Church has attained sufficient consistency, we can by its aid, and by no other means, reduce the City to a proper size. The existence of each man is centred in the City, by virtue of the natural preponderance of Action over Intellect, and even over Feeling. The social state can be rendered really permanent only by reconciling *independence* with *joint action*, both of which are equally inherent in the true idea of Humanity. This necessary agreement requires that political societies shall exist within limits much narrower than those usual at the present day.

The union
of nations
should be
a spiritual
one.

The only true union between nations is a spiritual one, founded on a common faith. Where such a union exists, there will be no need of force to maintain a temporal union between nations. Positivism regards the City as the type of the political organ of Humanity; including in the City, by way of complement, the less condensed population in natural connexion with it. The feeling of Patriotism is now vague and weak in consequence of its excessive diffusion. When concentrated in the City, it will develop the maximum of energy. At the same time the habitual union of great Cities will become more real and efficacious, for it will assume its normal character, that of a voluntary concert.* (See also Table E. at end).

The City is
the type of
the political
organ of
Humanity.

* The accompanying Table will show, at a glance, the Positive theory of Society.

ASSOCIATIONS.	THEIR BONDS.*	THEIR CENTRES.
(i) Family.	Love.	Woman.
(ii) City.	Co-operation.	Patriciate.
(iii) Church.	Faith.	Priesthood.

CHAPTER VIII.

SOCIOLOGY—DYNAMICAL.

The Positive theory of Society, considered from a *dynamical* point of view, rests upon the law of mental evolution which has been already fully explained. From this law follows the general division of the preparatory period of Man's existence. The first step was *Fetichism*. The preparation was carried on by *Polytheism*, and was completed under *Monotheism*.

The Positive theory of society rests upon the law of mental evolution.

Such a preparation, as before observed, was absolutely necessary for the intellect. If every real theory must rest upon the observation of facts, it is not less certain that any connected observation of facts is impossible without some theory or other. Originally then the human mind could find no other outlet but a purely subjective method; it must draw, that is, upon itself for the connection which it could not get from without till after a long course of study. In such a case, Feeling supplies the weakness of our Intelligence, and finds in it a universal principle of explanation. It supposes all objects whatever actuated by certain feelings, and instinctively it assimilates them to the type of Man. This primitive philosophy is necessarily fictitious, and as such merely provisional. It gives rise to a constant antagonism between theory and practice—an antagonism which undergoes gradual modifications from the increasing influence of our Action on our Intellect, but which continues during the whole of the preparatory period. At the same time that man in his *speculation* was attributing everything to arbitrary will, he was *acting* on the assumption of invariable laws. The knowledge of these laws, at first empirical, became less and less so; it became more and more extensive, till at length it reorganized our whole intellectual system.

A purely subjective method necessary at the outset.

Man's *temporal* progress, it may be here observed, is regulated by a law analogous to that which governs

Man's action regulated by a

law analogous to that which regulates his intellect.

- (i) Aggressive War.
- (ii) Defensive War.
- (iii) Industry.

War characterized.

his *spiritual* progress. In the Temporal, as in the Spiritual, and for similar reasons, we see three distinct states follow one another with a necessary succession. The *first* is simply provisional; the *second* is simply transitional; the *third* alone is definitive. Each corresponds to a particular form of our activity. Man's existence is in fact originally *warlike*. It becomes ultimately completely *industrial*. But it passes through an intermediate stage in which conquest ceases and *defensive war* takes its place. Such clearly, in Europe, are the respective characteristics of the civilizations of Antiquity, of Modern Society, and of the Middle Ages, which form the transition between the other two. In our Action, as for our Intellect, the course taken was the only possible one. For Society to be strong and to develop itself, there must be Labour. On the other hand, the development of Labour implies the previous existence of Society, just as much as the development of observation implies the existence of some theory to give the impulse. We are in a circle then. And again we escape from our difficulty by a spontaneous evolution, which supersedes the necessity of any complicated preparations. War is the only branch of action which fulfils this condition, from the natural preponderance of the instinct of Destruction over that of Construction. To produce great results, War requires the collective action of large bodies. Hence it is peculiarly adapted to form strongly cemented and permanent associations, in which the sympathy is intense, though limited in extent. In War the sense of a common interest is very strong. Lastly, it is only by War that can be effected the formation of large States by a gradual process of incorporation. The result of incorporation is to confine military activity to the ruling people, and to give it a higher character by giving it a noble destination. There is no other method generally applicable by which the aversion Man at first feels for all regular labour can be overcome.

When the empire acquired by War has reached a certain limit, an instinctive change of policy takes place. Defence becomes a more important consideration than Conquest. Thus we enter on the intermediate stage, on which, whilst War keeps its predominance, the foundations of Industrial existence are laid. The Industrial form of society is soon seen to be the only one susceptible of uninterrupted progress.

Defensive
War and
Industry.

Having now indicated the laws which govern both the Spiritual and Temporal progress of man, we proceed to explain the principal phases in the existence of Humanity. The first of these phases is Fetichism.

We shall
now con-
sider Feti-
chism.

I.—Fetichism.

The chief *intellectual* value of Fetichism is that it spontaneously *originates the subjective method*. This subjective method, in its primary absolute form, presided over the *whole* of the preparatory period. In its relative form it will continue even in Man's normal State, and will exercise increasing influence over the mind.

Its Intel-
lectual
value.

The *moral* efficacy of Fetichism is beyond dispute. Everywhere it instinctively puts forward Man as the type. It inspires us with a deep *sympathy for all forms of existence*, even where there is the least action, for it represents all forms as essentially analogous to our own. And therefore it is that this primal state of humanity is an object of keener regret than any other, in those who have been rudely torn from it. This is a fact which may be verified in the unhappy Africans, who are carried to a distance from their homes by the cruelty of Western nations.

Its Moral
value.

Even from the *social* point of view, and this is less favourable to Fetichism, it has rendered important services.

Its Social
value.

(i) In the *nomad* period of man's existence, its tendency to the worship of external nature *exerts a wholesome moderating influence on the Destructive instinct*. That instinct works blindly, and leads the hunter or the pastoral tribes

(i) It
moderated
the de-
structive
instinct.

(ii) It guided the race from the nomad to the settled life.

Stages.

1. Hunting.
2. Pastoral.
3. Agricultural.

It does not admit of a Priesthood,

until it passes into Astrolatry.

to destroy on a vast scale the animals or vegetables in order to prepare the ground for man's action. Such destruction is necessary, but should not be without check. (ii) But the highest service rendered by Fetichism is its unconscious guidance of the race through the first social revolution—the revolution which is the basis of all subsequent ones—our *transition from the nomad to the settled life*. This great change, of which we now but little see either the difficulty or the importance, certainly belongs to Fetichism, and is the consequence of the deep attachment it fosters for our native land.

The chief imperfection is, that not till a late period does it allow the rise of a Priesthood qualified to direct Man's future progress. The worship of Fetichism, even when highly developed, requires at first no priest. For it is, by its nature, essentially a *private* worship; each one may worship, without a mediator, beings which are almost always within his reach. Ultimately, however, a Priesthood arises. This is when the Stars, which are long without honour, come to be the principal Fetiches, and, as such, common to vast populations. They are seen to be beyond our reach. Hence a special class is formed, whose duties are to transmit the homage of men, and to interpret the will of the Fetiches. In this its last stage Fetichism borders on Polytheism, the origin of which in all cases was Astrolatry. This is clear from the names of the greater gods, which are always borrowed from the principal stars.

II.—Polytheism.

Difficulty of passage from Fetichism to Polytheism.

The passage from Fetichism to Polytheism is the most difficult change for Man's intellect in the preparatory period. It requires us to pass by an abrupt transition from *activity* to *inertia* in our general conception of matter; for were matter not regarded as inert, there would be no motive for the exertion of *divine* power. It is, however, a natural step to introduce the agency of beings external to

matter. The mind takes this step spontaneously in childhood when it passes from the contemplation of *beings* to that of *events*. Proceeding onwards, according to the primitive method, we consider phenomena as existing simultaneously in many bodies, and we still attribute them to a will. But we do not identify each body with a separate will, rather we consider that one will directs many bodies. Such a will must of necessity be external.

Polytheism has been the principal agent in the whole preparation of man. This is true of his *mental* evolution, but especially true of his *social*. (i) In the first place, Polytheism alone gives completeness to the primitive philosophy by extending it to our *highest functions*. These functions shortly became the favourite occupation of the gods. For Fetichism in the main had reference to the external World, and could not distinctly comprehend our Intellectual and Moral nature: on the contrary, these were the sources from which it drew its explanation of physical facts. But when we introduce supernatural beings, we can adapt them to this new sphere, and it soon becomes the chief one. (ii) At the same time Polytheism necessitates a Priesthood in the strict sense, or rather it consolidates and develops the priesthood which Astrolatry had originated.

Polytheism offers a variety of forms, but in all its forms alike we can trace two institutions, which have a close connection with one another. These are (1) the complete union of the Spiritual and Temporal Powers, and (2) the Slavery of the industrial population.

(1.) The union of the Spiritual and Temporal Powers was the spontaneous result of all the requirements of the Intellect, and all the wants of Society. (i) In the first place, it is impossible to limit yourself to giving advice if you speak in the name of a power that has no limits. The suggestions of such a Power naturally become commands. (ii) In the second place, the appointed task of the preliminary régime was to develop all Man's powers. It was

requisite that there should be a concentration of all the powers of Society, in order to overcome the indiscipline natural to Man in his primitive state. Had the Spiritual and Temporal Powers been separated, such separation would have been a great hindrance to the attainment of the object of Polytheism, by thwarting the progress of Conquest; for Polytheism was essentially active. (iii) Lastly, the *scientific* conceptions of men were so alien to their *practical* views, that to neutralise the defects of both, it was requisite that both should equally influence the intellect of all. On the other hand, this indispensable concentration was effected quite instinctively.

(2) Slavery.

(2) Slavery in the ancient world also arose spontaneously. The slave, as we are reminded by the Latin name (*servus*), was at first a prisoner of War, *saved* to labour, instead of being destroyed. Under Polytheism, which is a conciliatory system, the slave could keep his own worship, in subordination of course to the religion of his conqueror, who became his spiritual and temporal leader. The social condition of the slave, to which all men were more or less liable by the vicissitudes of War, was at that time so natural that men often accepted it without being taken in War; as a rule, however, War was the origin of Slavery. This institution was in two ways the basis of ancient civilization: (i) Without it, Conquest on a large scale was impossible; (ii) It accustomed men to Labour. For labour was the only way in which the slave could better his position, as it had been the condition on which his life had been spared.—Under all these aspects, it is impossible to compare the Slavery of *antiquity* with the monstrous Slavery of *modern* civilization.

It is the basis of ancient civilization.

Two forms of Polytheism.

The principal forms of Polytheism are (A) the Conservative, or Theocracy; (B) the Progressive,* which is sub-divided into (a) *intellectual* and (b) *social*.

* The advent of Progressive Polytheism in the West marks the beginning of the great Transitional Period (see p. 74.)

(A.)—*Conservative.*

The primary and most characteristic form of Polytheism is Theocracy properly so called. It is essentially Conservative, and affords the only complete organization possible in the preparatory period of Man's existence. All the phases of Polytheism are but modifications of this primitive system; from it they draw such partial consistency as they have, though their tendency is to break it up.

Theocracy
or Conserv-
ative
Polythe-
ism.

Theocracy rests upon two institutions which are closely connected with each other. They are (i) *Caste*, which recognizes all professions equally as hereditary; and (ii) the universal *supremacy of the priestly order*. Without the first, the progress made would soon have been lost. Nor is there any other system which could allow the slow introduction of secondary modifications; so long, that is, as education was given rather by means of imitation than by direct instruction, from there being no separation between Theory and Practice. Hereditary professions then were necessary; but the whole population would have been broken up into castes, completely independent one of another, had not the supremacy of the Priesthood been there to organize the state. It bound all castes together with a bond which they revered, one which was naturally susceptible of a wide extension.

It rests upon (i) Caste, and (ii) Priestly influence, Caste.

Priesthood.

This primitive Theocratic constitution is so completely in accordance with our nature, that it is still the organization of the largest existing populations, though it has been subjected to disturbing influences of the greatest magnitude. It was *universally* adopted. But it could only obtain prolonged durability in countries where the development of *intelligence* and *industry* had preceded that of the *warlike spirit*. Systematic military activity acts in all cases as a spontaneous solvent of Theocracy, for it places the Soldier above the Priest. The priests made great efforts to avert this result by directing the military energy on distant expeditions, the invariable consequent of which was a per-

Stability of
Theocracy.

War a
solvent of
Theocracy.

manent Colonization. Still, notwithstanding this policy the Theocracy in all cases succumbed to the dominion of a Military Patriarchate, but in succumbing it preserved the old manners and customs. That it could do this is convincing evidence of the tenacious character of the *régime*, and by virtue of it we have at the present day actual theocracies, as in China and India, which, though far advanced in decay, it is profitable to study. Such study enables us to appreciate, on a large scale, the social office of the Priesthood, in its manifold forms, as called upon to *counsel*, to *consecrate*, to *moderate*, and to *judge*. And we may also see at the same time to what an extent the exercise of these its fundamental attributes was vitiated by command and wealth, though the assumption of power and the possession of wealth were necessary accompaniments of the first interference of the Intellect in the domain of Feeling and Action.

Theocracy
when op-
pressive.

The tendency of Theocracy to become oppressive, from its aversion to all change, is one which is only developed in its latest stage, as the consequence of the inevitable degradation of the priestly character resulting from their *power* and *wealth*. But after all, the aversion to change in Theocracy has been considerably exaggerated. Theocracy has been judged by the contrast in this respect offered by the greater rapidity of the Western movement. Quite apart from any external interference, there are many decisive indications of a spontaneous movement in the Theocratic Civilizations. For instance, Buddhism, though crushed in Hindoostan, in Thibet led to very great modifications of the Theocratic system.

(B.)—*Progressive (including (a) and (b)).*

Progressive
Polythe-
ism most
marked in
the West.

With Progressive Polytheism our area of study becomes narrowed, since the advance from the Conservative to the Progressive phase has been confined to comparatively few nations, and the progression has been most marked in the West. For the present, therefore, we

shall concentrate our attention upon the immediate ancestors of Western Civilization, and we are naturally led to select for examination those populations in which the full establishment of Theocracy was anticipated by a precocious development of Military Activity.

Polytheism, in its Progressive period, appears under two Two forms. very different forms,—(a) the one mainly *intellectual*, (b) the other eminently *social*. (a) Polytheism takes an *intel-* (a) Intellectual Polytheism. *lectual* character when, owing to local and political circumstances, War, although very general, leads to no system of Conquest. In such a case, it exerts a secret influence on all the higher minds which leads them to cultivate their intellects. This is also the direction which the attention of men generally has taken, and thus the cultivation is free from all sacerdotal discipline. (b) When, (b) Social Polytheism. on the contrary, there is no check on War, and it is free to follow out its tendency to universal empire, the Intellect becomes subordinate to Action, and the citizen, as a rule, is absorbed in *social* questions relative to his own state or to foreign policy.—These two forms of Progressive Polytheism were each according to its own nature, and each in its own time, equally indispensable to the great movement in the Western world, which followed when the yoke of Theocracy had been spontaneously thrown off.

Ultimately, in every Theocracy, the Priestly caste becomes The Priest becomes ultimately subordinate to the Warrior. socially subordinate to the Warrior caste. Even in Judea, notwithstanding its exceptional concentration of power, Theocracy had to submit to this change. The Kings took the place of the Judges, six centuries from the organization of the Theocracy. But we must carefully distinguish the cases Two cases. in which this change is not effected *till after the Theocratic spirit has gained a firm hold*, from those in which the change is effected *sooner, and the Theocracy is consequently never really strong*. The evolution of Western Europe took place mainly under this latter condition; the Soldier anticipated the Priest; it required, however, for its success a judicious introduction of ideas borrowed from pure Theocracies.

Transitional Period in West (from B. C. 1200 till now.)

Western civilization commences with times sung by Homer. B. C. 1184 or 1200 about.

With the times sung by Homer* begin the series of movements which have resulted in Western Civilization. Two generations, at the most, had elapsed since the *warrior* caste had begun to take precedence of the *priests* among the Greeks. The primeval Theocracy can yet be traced in the numerous Oracles, respect for which, though they were dispersed, lasted longer in Greece than anywhere else.

From then till now, has been an immense period of transition.

Dating from this era, the progress of the West has been an immense *transition*, during which any real organization was impracticable. To test the accuracy of this view, we have but to contrast the short duration of the several states of society, which henceforth follow in rapid succession the one on the other, with the persistence of their predecessor, the Theocracy which arose out of Fetichism.

This transitional period must be regarded from three points of view.

This *transitional* or *preparatory* period must be viewed in reference first to Intellect, then to Action, finally to Feeling. In the primitive Theocracy these three phases were cultivated simultaneously, and Man's existence was thus brought under a complete system of rules. But however complete, such a system was not favourable to progress. To quicken the rate of progress, it was necessary to break up the harmony, in order to develop *in succession* each part of Man's nature at the expense of the two others. Hence the marked incompleteness, traceable equally in the *intellectual* evolution of Greece, in the *social* action of Rome, in the *affective* discipline of the Catholico-feudal period. These three partial evolutions succeed one another in an order which is at once seen to be a consequence of their common destination.* The first object was to develop all our powers. Any attempt at their *discipline* was premature, except so far as discipline was a conse-

The order of development.

* At this point begins the great *Transitional Period* of the West. It includes (i) under Polytheism, the Greek and Roman periods; and (ii) under Monotheism, the Catholico-feudal period,—to which succeeds the long Revolutionary movement commencing with the 14th century, and not yet fully terminated. This Revolutionary period leads directly to Positivism.

quence of their spontaneous antagonism. And the only effect of such a premature attempt would have been a return to Theocracy. For Theocracy was always imminent, and to return to it was to prevent the partial development desired. Hence it is easy to see how it was that Feeling, the chief source of human discipline, was for a long time neglected, and how its supremacy could not be recognized till Science and Action should have made sufficient advance. For the free play of all Man's powers, it was necessary that Intelligence should precede Action. The tendency of Action was to unite all the Progressive Polytheists in one empire. Such a union would have been incompatible with the full liberty required for *intellectual* growth. That growth then must precede the development of *activity*.

We shall now trace the course of each of the three great periods of transition,* and show how they are connected.

(a)—*The Greek or Intellectual Period.*

The Greek period is one of imperishable brilliancy. But if Greece and Rome are placed side by side, and judged by the influence each civilization had on its respective nation, the contrast is unfavourable to Greece. In Roman history we are in contact with a constructive system, the work of the nation, in which all the citizens must take an active part, or the failure would be complete. In Greece the people is, in the main, passive. It forms a kind of pedestal for some few thinkers of real eminence. Their number is not above one hundred in Art, in Philosophy, in Science, from Homer and Hesiod to Ptolemy and Galen. In Rome, a high degree of common action stamps the whole nation with a character of nobility. In Greece, the monstrous predominance of speculation over action led to the degradation of the people, which was sacrificed to it.

(a) The Greek period Greece and Rome contrasted.

B. C. 900 to A. D. 159.

* These are: *first*, the Greek, or intellectual (p. 75); *secondly*, the Roman, or Social (p. 77); and, *thirdly*, the Catholico-feudal, or Affective (p. 78). The first two belong to Progressive Polytheism, the third comes under Monotheism.

But one
fine period
in Greek
history.

B. C. 500-
328.

There is but one fine period in Greek history. Its duration was scarcely two centuries. Even during that time there were constant interruptions from their wretched internal disputes. The period in question was that of their admirable struggle with the Persian empire. Defensive at the outset, the war became ultimately offensive. The issue was to vindicate from all forcible compression on the part of the Persian Theocracy the small band of free-thinkers, on whose existence depended, at the time, the intellectual destinies of Humanity. And even in this struggle the success is due mainly to some few citizens of pre-eminent merit. The several States constantly showed themselves ready to sacrifice the national defence to their mutual jealousies.

Divided
into three
periods.

Art:
Homer the
type.

Philosophy:
Aristotle
the type.

*Practical
Science:*
Archimedes
the type.

This long process of *intellectual* elaboration is divided into *three* periods of unequal length. (i) The movement began with *Art*, and Homer is for all time the representative of *Art*. It was natural that Poetry, as at once by nature more independent of and yet more fettered by Theocracy, should be the first to separate from the parent stem, and lead the way in the emancipation of the Western world. (ii) Poetry made the way clear for *Philosophy*. In Thales and Pythagoras we have the first rudiments, but the incomparable Aristotle is its genuine representative. He was so far above his age that it was not till the Middle Ages that he could be appreciated. The value of his philosophical elaboration is imperishable, and the results obtained were so definitive as to make it evident to the highest intellects that the limit Aristotle had reached could not be passed without a long scientific preparation. The aim of such preparation should be the development of Mathematics, as the primary basis of Positive Philosophy. (iii) Under this conviction, the genius of the Greeks directed its chief attention to *Practical Science*, and this finds an admirable representative in Archimedes. The capacity of the Greeks for *art*, and their *philosophical* power, had by this time been irreparably exhausted.

(b)—*The Roman or Social period.*

* The Roman period will be found easier to understand than the Greek one. This is owing to the homogeneous and strongly marked character which distinguishes Roman gradual march to universal empire.

(b) The Roman period characterized.

There are *two* main periods. (i) Prior to the time when the incorporation of Western Europe was effected, the direction of the warlike energies of Rome was naturally in the hands of the *senatorial* caste. Strong in its theocratic ascendancy, the Senate found in the common efforts a sufficient check on the jealousy of the Plebeians. But this order of things, based upon War, was destined to undergo a change when the Roman dominion became so extended and so consolidated that it no longer absorbed the attention of the Roman people. (ii) The Emperors then stood forward as the true representatives of that people, its protectors against the tyranny of the Patricians. At the very time that Virgil expressed the policy of Rome*—the best type of which is the great Dictator, the incomparable Cæsar—that policy was undergoing, unknown to the poet, this decisive change, the first symptom of its inevitable decline.

Divided into two.
(i) The Republic.
(ii) The Empire.

* About B.C. 25.

Of these two periods, nearly equal in length, the first was eminently *progressive*, the second was essentially *conservative*. Both equally had a powerful social influence on the whole preparation of Western Europe. To the first, Europe owes the salutary dominion which everywhere put a stop to fruitless yet continuous wars. To the *second*, it owes, in the *civil* order, the benefits attendant on incorporation into one political whole, benefits greatly dependent on the uniform propagation of the Greek intellectual movement.—Rome conquered Greece, but she always paid her a

Characters and results of the two periods.
About 400 years each.

* Tu regere imperio populos, Romane, memento;
Hæc tibi erunt artes, pacisque imponere morem,
Parcere subjectis, et debellare superbos. *Æneid* vi. 847-855.

noble tribute, and devoted her own influence to spread Greek Art, Philosophy, and Science, which, unless so disseminated, would not have fulfilled their highest purpose.

Monotheism.

The Catholic or Affective Period. (A. D. 400-1300).

The Catholic period, why needed.

Thus had finally been effected a junction between the two last movements peculiar to antiquity, the one Intellectual, the other Social. After this, the preparatory stage of Man's existence naturally set towards the last of its necessary phases. The Polytheistic *régime* of ancient Europe had a manifest tendency to produce the Monotheistic order of the Middle Ages. Theoretically and practically, Intellect and Activity had been developed by Greece and Rome respectively. Then there soon came the consciousness of the need of some *discipline*. It was to satisfy this want that *Catholicism* rose. Its success was due to the impulse given by St. Paul. Its nature, however, was so self-contradictory that it was manifest from the commencement that this last transitional state would be less permanent and less extensive than its predecessors. In order to attain its chief end, it was necessary to effect a radical separation of the Spiritual from the Temporal Power. It is true, such a separation was the spontaneous result of a position in which Monotheism was slowly making way under the political supremacy of Polytheism. Not the less, however, is this division of the Temporal and Spiritual Power at all times incompatible with the absolute character of Theology. For Theology (and this is more especially true of its concentrated form, Monotheism) only allows its priesthood to confine itself to *counsel* when it cannot exercise *command*.

Catholicism, being contradictory, was short-lived.

Separation of the two powers is adverse to claims of Theology.

Catholicism contradictory

That Catholicism * is thus *necessarily* contradictory may

* Comte employs the term "Catholicism" where other writers would use "Christianity." He thus defends his view:—"I prefer the term Catholicism to that of

be best seen by taking two general points of contrast, the one *social*, the other *intellectual*. (i) And firstly, the only possible foundation for human discipline was, at that time, a Future State. Hence the *doctrine of a future life* acquired, in the hands of the new priesthood, a far greater importance than it had ever before had, even in Judea. The Priesthood found in it the exclusive domain it needed. But a religion constituted on this basis was *incompetent to guide practical life*, for every believer was diverted from his duty as a social being, and urged to a solitary asceticism. (ii) In the second place, *the schism between Theory and Practice*, concealed and even atoned for, whilst the Temporal and Spiritual Powers remained concentrated, became prominent on their separation. Monotheism by its concentration drew out more strongly the inherent opposition between arbitrary *will* and immutable *laws*.

If we combine the two points above given, we need not be surprised that Catholicism was long rejected by the most eminent philosophers and statesmen of the Roman empire. They looked upon it as purely *retrograde*. These great chiefs failed to see that one more preparatory phase of society, which should essentially have reference to Feeling, was needed, and that the results of that phase would be a two-fold emancipation—the peculiar work of the Middle Ages—(i) the emancipation of Women and (ii) the emancipation of the Industrial Classes. The attainment of these results was greatly aided and even accelerated by the influence of Feudalism.

Feudalism, which has been erroneously attributed to the German invasions, was in reality the *necessary consequence of the Roman Empire*, which in its later period had a natu-

Christianity, not only because it is more distinctive, but because it is more universal, from involving no name of any individual founder, but comprehending the Monotheistic principle without sectarian limitation. Every one knows what a Catholic is; but the wisest man will not undertake to say what a Christian is, now that the title belongs to all the thousand varieties which separate the primitive Lutheran from the pure Deist."

Chief characteristics of the Middle Ages.

ral tendency towards the feudal organization. The wide extension of the Roman Empire speedily *substituted defence for conquest*. This is the great change of which the two other characteristics of the Middle Ages are the necessary result. On the one hand, we have the *gradual substitution of serfage for slavery*, when, as a natural consequence of the cessation of foreign conquests, the slave market was confined within the limits of the Roman world. On the other hand, we have a *gradually increasing dissolution of the central power*, and the substitution of local governments, each charged with its share in the common defence. Feudalism. The hierarchical subordination of these governments was what constituted Feudalism in the strict sense of the word. All that Catholicism did was to sanction these *three* political tendencies by recommending Peace, Emancipation, and Submission.

Feudalism contributed more than Catholicism to the abolition of slavery and to emancipation of women.

Catholicism contributed far less than Feudalism to the *abolition of slavery* in Europe. The movement began in the Towns, and subsequently extended to the Country. Neither did Catholicism contribute as powerful an aid as Feudalism to the *emancipation of women*. In this respect we owe to Catholicism the initial step, *purity*; the final step, *tenderness*, is due solely to Chivalry. Throughout the Greek Church, Christianity still sanctions the seclusion of women and serfage; and the only attempts at due modifications proceed from the Czars.

Middle Ages.
First period,
400-700.

The Middle Ages may be divided into *three* periods:—

The *first* period begins with the opening of the 5th, and ends with the close of the 7th century. It was occupied by the *first great settlement of the Barbarians*. In that settlement (where, that is, the conditions of the invasion permitted its final success) we can trace most of the characteristics of the Middle Ages. In this period *independence* was the primary object; concert was of secondary importance.

Second period,
700-1000.

The *second* period is of equal length, from the 8th to the 10th century. In it the paramount want was *concentration*.

The object was to *repel the invasions of fresh tribes*, and to secure from further disturbance the settlement effected. The tribes who had effected it had shown themselves fit for incorporation into Western Europe, by the care with which they had been converted from Polytheism to Catholicism. The action of Europe in this period was *collective*, under the guidance of the Carlovingian princes; and especially under the dictatorship of the incomparable Charlemagne. The work of Charlemagne found men worthy to complete it in the German emperors.*

Carlovin-
gians.
A. D.
800-888.

The contest between Catholicism and Mahomedanism occupies the last period of the Middle Ages. It begins with the 11th century, and ends at the close of the 13th. The issue of the struggle between the two irreconcilable Monotheisms was, to discredit both equally, by showing the thorough groundlessness of the claim they both put forward to be universal. During this *third* period, the *Feudal system* in its strictest form was established. Independence had been the dominant idea originally; it had given way to the idea of *concert*. Feudalism combined both without impairing either. The institutions of Feudalism in the 12th century served as a general basis for the Crusades. Those heroic expeditions organized and developed the *collective* activity of Western Christendom, and finally put an end to all the anxious fears of a Mussulman invasion. In the 13th century the Crusades ceased to have any great social purpose; they lost their true character; and fell into discredit. The result was that the Roman world was divided between two incompatible Monotheisms, both alike doomed to an inevitable decline.

Third
period,
1000-1300.

Feudal sys-
tem.

Crusades.

* Charlemagne crowned emperor 800, died 814, A. D. The chief Carlovingian princes were Lewis I (the Pious), died 840; Lothar I, died 855; Charles II (the Bald), died 877; Lewis II, died 875; Charles III (the Fat), died 888. The most celebrated German emperors of the 10th century were Henry I (the Fowler), died 936; Otho I (the Great), died 973; and Otho III, from 983 to 1002. Henry II (the Saint) was emperor from 1002 to 1024.

Modern Revolutionary Period.

Revolutionary period begins with 14th century. Characteristics of this period.

At the opening of the 14th century* begins the vast Revolution in Western Europe, to end which is the mission of Positivism. At this time the whole intellectual movement of the West was thoroughly hostile to the existing order. The tendency to accept definitively a *positive faith* and a *peaceful activity* was beginning to be recognized. But for the attainment of this end, it was necessary that Science, Industry, and even Art should undergo a long elaboration. In the main, the process must be one of detail, and dispersion in character, so that its social bearing could not then be seen. Hence this last *transitional period*, taken as a whole, is a period of growing anarchy; taken in its several parts, is one of increasing organization.

Negative progress most marked.

This period subdivided.

The *negative* progress, that of anarchy, has a more distinct character than the positive progress. Its two necessary phases must be distinguished. In the one, the work of decomposition is *spontaneous*; in the other, it becomes more and more *systematic*. (1) The *first* includes the 14th and 15th centuries; (2) the *second* the 16th, 17th, and 18th. These two periods also differ, if we look to the *positive* movement, that of reorganization; but here the difference is less marked. The whole of Western Europe was affected by the *spontaneous* decomposition. When *systematic*, the triumph of the negative movement was confined to the North.

1.—*Spontaneous* (A. D. 1300—1500).

Negative movement.

The Metaphysicians and Lawyers.

From its commencement the direction of the Revolutionary movement was in the hands of two classes, namely, the Metaphysicians and Lawyers. These constitute respectively the Spiritual and Temporal elements in the Negative system. The Metaphysicians were never anything, as regards Theology, but inconsistent destructives. The Lawyers, and, above all, the Judges, not to mention their temporary

* This, according to Comte's view, is the commencement of Modern History. The details of this period should be carefully studied in Comte's own works. The above abstract is extremely brief.

or special services, always had a tendency to follow in the track of Rome and construct a moral system on a basis exclusively human.

During the 13th and 14th centuries, the whole medieval régime was thoroughly broken up by conflicts between its component parts, its *doctrinal system remaining intact*. The chief struggle naturally was between the Temporal and Spiritual powers. Their harmony had always been precarious, a series of oscillations between Theocracy and the Empire. The Popes in the 13th century strove in vain to establish an absolute dominion. Throughout Europe the Kings organized a successful resistance. In the 14th century the Kings finally annihilated the power of the Papacy in Western Europe. This decisive revolution was completed in the 15th century, when, in every case, the national Clergy became subordinate to the Temporal authority.

Side by side with this change in Spiritual matters, in the Temporal order the struggle which had begun in the Middle Ages, between the *local* and *central* powers in the State, was continued on a larger scale. In every case the power which had been originally the weaker got the upper hand, by the instinctive aid of the classes whose origin dates from the abolition of serfage. The normal issue is, that Royalty should prevail and the Aristocracy succumb. The contrary result is to be looked on as an exception.

Turning to the *positive* side of the progress, the most important feature during this first period (A.D. 1300—1500) is the *growth of industry*. The way had been prepared by the organization of the labouring classes, both in town and country, in the Middle Ages. In the period under consideration, *three* important events gave a decisive impulse to the Industrial movement. There is nothing fortuitous in their occurring at this particular time. (i) First, by the *invention of gunpowder* the transitional institution of Standing Armies became perfect, and Western Europe was able to dispense with a military education

Spiritual changes during the 13th and 14th centuries.

Temporal changes during the 13th and 14th centuries.

Positive movement.

(i) Invention of gunpowder. Schwartz, 1320.

(ii) *Printing* invented about 1450. which was adverse to the new form of action. (ii) Next, *printing* connected Science with Industry, by enabling men to gratify the ardent desire for knowledge which was then universal. (iii) Lastly, *the discovery of America* (1492) and of *the passage by the Cape of Good Hope to India* (1497) gave an opening for a vast extension of commercial relations. Under this impulse the new form of European existence took shape and consistency. The *intellectual* movement produced no great effects as yet, except in Poetry. On the other hand, the accumulation of useful materials of all kinds prepared the way for the subsequent Scientific development.

Intellectual movement.
Dante,
A. Kempis,
&c.

Neglect of
moral improvement.

This simultaneous advance of the Intellect and Activity does but place in a clearer light the lamentable neglect of Moral improvement. The attention to this had been general in the Middle Ages, and is their chief merit. During the Transitional Period moral culture became more and more exclusively confined to the affective sex. Not carried away by the stream of Scientific and Practical advance, it was reserved for Women, amid modern anarchy, to hand down the more important results of the Middle Ages, in spite of the aversion felt for those results.

2.—*Systematic (including (a) and (b)).*

Systematic
period com-
mencing
with 16th
century.

We now reach the Systematic Period (A. D. 1500) of the two-fold* movement of modern times. Hitherto the *doctrines* of the old *régime* had been unassailed; they are now the object of a *direct attack* upon purely negative principles. That the anarchy should spread thus far was indispensable as well as inevitable, for in no other way could the necessity of a real organization be evident. The want had not been felt previously, owing to the appearance of life which the old system wore after all its social bases had been irrevocably destroyed. To form a sound judgment on the

Must be

* That is, *positive* and *negative*, or of *décomposition* and *re-organization*.

work of this period, we must divide it into two parts: (a) divided into two parts. The *first* begins with the 16th century, and ends at the (a) 1500-1680. point at which the Monarchy in France assumes a retro- (b) 1680-1789. grade attitude,* an event which coincides with the triumph of the Aristocracy in England (A. D. 1500—1680). (b) The *second* division brings us to the close of the 18th century (A. D. 1680—1789), to the actual commencement, therefore, of the Revolutionary Crisis; which is yet convulsing Europe with its deplorable vicissitudes.†

The necessity of such a division of the period depends principally on the increase of system on the negative side. At the outset, it seemed that the negative doctrines might be compatible with the fundamental conditions of the theological régime, but later it became evident that they were incompatible. We may mark these two successive stages of the negative movement by the terms *Protestant* and *Deist*. Infinitely varied as are the sects of Protestantism, they all adhere to the Christian doctrine of a Revelation; and this is sufficient to distinguish them from the more complete emancipation which is implied in Deism. The necessity of such a division. The two periods may be termed Protestant and Deist, respectively.

(a) *Protestant Phase* (A. D. 1500—1680).

At the very commencement of the second phase of Modern History (A. D. 1500), the negative doctrine broaches directly its anarchical principle, by its assertion of *absolute individualism*. This follows from its allowing that every one, without exacting any conditions of competence, may decide every question. Once allow this, and all spiritual authority is at an end. The success of Protestantism, partial as it was, shows, however, that it met some important wants—wants both of the intellect and of society. The Doctrine of Individualism. Effects of Protestantism.

* From *Revocation of Edict of Nantes* in 1685.

† The dates given above are only approximate. They are merely intended to fix the conceptions. The *second* phase of the Systematic Period extends to the beginning of the French Revolution, which Comte regards as inaugurating a new era. With 1789 commences the Transitional Crisis, which will be terminated by the triumph of *Positivism*.

anarchical character of its principles did not prevent Protestantism from aiding, at its commencement, the progress of Science and the development of Industry, for it gave a stimulus to individual effort, and it set aside oppressive rules.* It is fortunate, however, that the greater part of the Western world was preserved from Protestantism. Had it been universally accepted, that acceptance would have been deemed a satisfactory issue of the general Revolutionary movement. The essential conditions of regeneration would in no way have been complied with, for Protestantism proclaims the permanent fusion of the Spiritual and Temporal Powers.

Temporal Dictatorship.
(*Royal in France, Aristocratic in England.*)

Science and Philosophy.

In this second period of modern history, we see perfected the Temporal Dictatorship, the origin of which is traceable to the first. The growth of its power coincides with the formation of the great Nationalities, a provisional result of the disruption of the union effected by Catholicism in the Middle Ages. In this period also the Scientific character and Philosophical tendency of the Positive Movement become clearer. Cosmology took a decisive step in advance by establishing the theory of the Earth's Motion.† Then followed shortly the systematization of Celestial Geometry, and the foundation of Celestial Mechanics. Such theories showed that the Scientific spirit was radically at variance with Theology and Metaphysics. The tendency to construct directly a Philosophy which should be thoroughly Positive became strongly marked. Bacon and Descartes both lent their aid in this direction, and pointed out the preparations required for a Positive Synthesis. During this decisive movement, the progress of Poetry and the other Fine Arts was a worthy continuation of that made in the preceding period, which in

Fine Arts.

* We owe to Protestantism two revolutions: (i)—that of Holland against Spain; (ii) that of England to secure internal reform. The second was premature, and therefore ultimately failed. But it served to indicate, under the admirable dictatorship of Cromwell, the inevitable tendency of the European movement.

† This step was achieved by the joint labours of Copernicus, Kepler, and Galileo.

its turn had been due to the Middle Ages. As for the progress of Industry, to extend it became more and more the object of the various governments, though they still looked on it as subordinate to War.

(b)—*Deist Phase, Revolutionary Crisis (1680 and after).*

The last period of Modern History (from latter part of 17th century) remains to be characterized. The necessity for this period lay in the general results of the preceding one. Protestantism and Catholicism had given up all idea of universal supremacy. Western Europe was divided between them, as the Roman empire was divided between the Koran and the Bible. Limiting ourselves to the leading nations, this division of the West into Catholic and Protestant, coincides naturally with the division of the Dictatorship into Aristocratic and Monarchical. This division had been the result of the preceding period. By this coincidence it became more marked. In the Protestant nations the Aristocratic form prevailed; in Catholic countries, the Monarchical. Under both forms equally, the Dictatorship had become hostile to the movement of emancipation. In such a position of affairs, an explosion was at once indispensable and inevitable. It was negative in character, and is the distinctive event which marks the 18th century. A real reorganization was impossible without it, nay, the very idea of such a reorganization was impossible. The critical doctrines had already been co-ordinated by the Metaphysicians who succeeded Bacon and Descartes. They had gained universal acceptance, owing to the assiduous exertions of the literary class. This class had hitherto been subaltern; it now assumed the position of leaders. Two generations witnessed and exhausted the ascendancy of these inconsequent reasoners, who wished to destroy the altar and maintain the throne, or conversely. But pure destructives, such as Voltaire and Rousseau, can never be the philosophical representatives of the 18th century. Its great school is that of

Necessity for the last period of modern history.

The Dictatorship becoming oppressive, an explosion was inevitable.

Hobbes, Spinoza, Bayle, Literary class.

School of Voltaire and Rousseau.

Philosophical representatives of the 18th century.

Diderot and Hume, of which Fontenelle was the precursor, Condorcet the complement. This school accepted the system of destruction, but accepted it only with this object, that it might be able to gain as clear a conception as possible of the final regeneration. Among statesmen, Frederick the Great, of Prussia, represents this school.

Positive
results of
the Revolu-
tionary
Crisis.

It was during the Revolutionary Crisis that, on the *positive* side of the movement, we see Cosmology completed by the foundation of Chemistry. In the Industrial department, we see the Banking class rising to the ascendancy, which is naturally its due; for its ascendancy is the sole condition under which the systematization of our Industrial action is possible. At the same time, War became the minister of Commerce. The Colonial disputes were the occasion of the change. The great extension of Machinery gave its last characteristic to modern Industry. But it also gave occasion to a lamentable increase, on the part of the Masters, of neglect of all the social conditions of industrial enterprise. The Workmen came more and more to be looked upon simply as a source of profit, to the exclusion of all ideas of government or direction.

Stormy
nature of
the Crisis.

The stormy character of the Crisis (which terminated the vast Revolution)* was the necessary result of the fatal inequality in the rate of progress of the Positive and Negative movements. The Negative movement had been very rapid, and the Positive had not been able to satisfy its demand for organization. Whilst the Negative was destroying all general conceptions, the Positive had only some partial ones to offer in exchange. The leadership in the work of modern regeneration, and that at the time of its greatest difficulty, had devolved on the class least qualified for the post, the class of mere *writers*. The sole object of their aspirations was the Pedantocracy dreamed of by their Greek masters. They would concentrate all power in their own persons.

* This Revolution extends over five centuries, from the end of the 18th century to the end of the Middle Ages (1300—1800).

The political triumph of the Negative doctrine, during the French Revolution, brought to light the thoroughly subversive tendencies of that doctrine. This soon led to a retrograde re-action under the first Napoleon. Then followed a series of wretched oscillations between anarchy and retrogression. During this long period of fluctuation, the spiritual anarchy in Europe reached its height. All the previous convictions of men, whether of the Revolutionary or Retrograde school, had lost their hold. If discipline is partial, it cannot be real and lasting. If it is to be universal, it must rest on one principle—the constant supremacy of the Heart over the Intellect. But this principle had been losing ground ever since the close of the Middle Ages. It had the support of Women; but this support was powerless, for Western Europe paid less and less respect to Women.

The subversive nature of the Negative doctrine shown by its political triumph.

The result was that even in the Scientific sphere, the provisional order, which Bacon and Descartes had tried to institute, was set aside, and free course given on empirical grounds to the unconnected study of special sciences. All Philosophical control was scorned by those engaged in such pursuits. Each encyclopedic phase ought to be kept within certain limits—limits to be fixed by the wants of the next phase above it. Instead of this, every exertion was made to give each an indefinite extension by isolating it from the whole. At each step in this process, the whole was more completely lost sight of. The movement became retrograde, as well as anarchical, for 't threatened to destroy the great results of former labours. In the domain of Art we find anarchy and retrogression still more rampant. Art is, by its nature, eminently synthetic; it rejects analytical empiricism more absolutely than Science does. But even in Poetry the degradation was so great that the learned could appreciate nothing but style: so that they often placed real master-pieces below compositions which were both poor and immoral.

Its influence upon Science and Philosophy.

Upon Art.

Such is the sad state of things which Positivism seeks to

Positivism

seeks to
remedy this
confusion.

remedy. Its solution of the social problem is the only consistent one—the only one which arises naturally from the whole of Man's past history.

The historical
development of
Positivism.

The origin of this solution must be traced to the completion of the vast preparation of the race. The *objective* and introductory period had begun with Thales and Pythagoras; it had been continued during the whole of the Mediæval period; it had never ceased to advance during the anarchy of Modern Europe. At the beginning of the French Revolution, it had been completed, so far as Cosmology was concerned, by the recent creation of Chemistry. Bichat and Gall had taken a decisive step in advance,—Gall by founding Biology, Bichat by completing it. By the introduction of this new science, the Scientific basis for the entire renovation of the Philosophical spirit was laid. The result of the whole Positive movement was to facilitate the advent of Sociology—an advent which had been heralded by Condorcet in his attempt to bring the future into systematic subordination to the past.

A *subjective*
Synthesis
at length
possible.

By the universal adoption of an exclusively human point of view, it was possible for a *subjective* Synthesis to construct a Philosophy which should be proof against all objections. The next step was to found the final Religion. (This has been done by Comte.)

Positivism
affords a
complete
and satis-
factory
solution of
all the dis-
puted
problems.

The Positive movement is at length able to meet all the demands, Intellectual and Social, to which the Negative movement can give rise. The Relative finally takes the place of the Absolute; Altruism tends to control Egoism; *systematic progress* is substituted for *spontaneous growth*. The long and difficult initiation through which Humanity has had to pass, under the sway of Theology and War—powers constantly on the decline—will be terminated by the ultimate triumph of a system which rests upon a basis of demonstration, and which aspires to satisfy the Heart as well as to convince the Understanding.

CHAPTER IX.

MORALS.

We proceed finally to consider *moral science*. **Morals** Moral science characterized. are naturally the only science susceptible of real completeness. No essential point need be put out of view, as must be the case in each of the sciences which serve as their basis. For when we look on these sciences as, each in its proper sphere, deciding what are the laws which Man obeys, they only attain this end by purposely neglecting all the higher properties which their respective provinces might embrace, whilst they incorporate only the inferior ones. We begin with Cosmology, which lays down the laws of mere *matter*. Then, on the basis thus laid, Biology constructs the theory of *life*. Lastly, Sociology brings forward the study of the collective or *social* existence of Man in subordination to the two-fold foundation already laid. This last of the preliminary sciences is more complete than its predecessors. Still it does not yet embrace the whole of human nature. For our most important attributes find but an inadequate appreciation in Sociology. By its nature, Sociology considers in man his *intelligence* and his *activity*, in combination with all our lower properties, but *not* in direct subordination to the *feelings* which are highest of all. The development of Society places in the strongest light our *theoretical* and *practical* progress. Even in the Statics of Sociology, our *feelings* are only considered in reference to the social impulses derived from them, or to the modifications Society introduces. Their peculiar laws, to be properly studied, must be studied in Moral Science. There they acquire the preponderance due to their higher rank in the system of human nature. This final science is distinguished by the fulness of its *synthetical* character, an attribute which is strengthened by the direct connection of morality with *practice*. In Moral Science alone do all the abstract points of view meet spontaneously to take the general guidance of concrete Reason. Objectively Subordinate to Sociology. Moral Science studies the Feelings.

Sociology
cannot
dispense
with
Morals.

Objectively, Morals must be regarded as subordinate to Sociology, since Man is always subordinate to Humanity. But on the other hand, Social Science cannot altogether dispense with Morals, since it stands in continual need of the more important notions that Morals are able to give as to the true nature of Man. Here then is an apparent difficulty, which will disappear, however, if we only take into account the fact that we have on every subject some previous knowledge, acquired by our own efforts, which prepares the way for systematic study. Now although Morals, owing to their higher degree of complication, could not be systematized till the last, yet by the force of their preponderant importance, they always supplied the main food for our ordinary meditations. From this empirical culture, some notions were soon gained, which, in spite of their incoherence, were very valuable. On examining closely the way in which the knowledge of human nature enters into Sociology, it will be seen that these spontaneous notions are all that are really made use of.

Empirical
moral
notions
sufficient,
however,
for the
purpose of
Sociology.

Primitive
analysis—
Feeling,
Intellect,
Action.

As a direct foundation for Moral Science, it is sufficient to put in proper systematic form the division which the common sense of man early recognized in the whole of Man's existence—the division into Feeling, Intellect, and Action. This fundamental and primitive analysis was completed, empirically, by the division of our inclinations into *personal* and *social*. It is the natural province of Moral science to systematize and develop the empirical basis furnished from the first by the popular instinct. St. Paul, at the beginning of Catholicism, made an attempt at systematization which was provisionally valuable. In his general doctrine of the permanent struggle between *nature* and *grace*, he stated, though in an imperfect form, and solved in his own way, the whole moral problem.

Inclina-
tions
divided
into
personal
and *social*.

St. Paul's
theory of
a struggle
between
Nature and
Grace.

Gall first
introduced
a Positive
theory.

It was Gall who first laid the foundations for a *positive* theory of human nature. He showed that our higher functions, mental and moral, were *plural*, and that they all had

ROUGH OUTLINE OF ORGANS OF BRAIN.

<i>Feeling.</i>	/	1. Nutritive Instinct.
		2. Sexual „
		3. Maternal „
		4. Destructive „
		5. Constructive „
	|	6. Desire of Power.
		7. Desire of Approbation
		8. Attachment.
		9. Veneration.
		10. Benevolence.
<i>Intellect.</i>		11. Synthesis (<i>concrete</i>).
		12. Analysis (<i>abstract</i>).
		13. Generalization (<i>inductive</i>).
		14. Systematization (<i>deductive</i>).
		15. Communication (mimic, oral, written).
<i>Action.</i>	{	16. Courage.
		17. Prudence.
		18. Firmness.

For a more complete view, see Table C., p. 126.

The organs, marked 10, 14, 18, are the distinctive ones. They respectively represent Love, Order, Progress.

their seat in the brain. The several regions of the brain must then correspond to the real distinctions between them. Gall b. 1757, d. 1828. Gall fell into many important errors, especially in regard to the Intellect. They were the result of a superficial analysis and an empirical determination of the position of the different organs. But (i) he succeeded in giving an adequate idea of the general method of analysing our compound existence, and (ii) he even succeeded in establishing the fact that we have *benevolent inclinations*.

The *posterior* part of the brain is the seat of our *personal instincts*, while the *anterior* region is the seat, both of our *sympathetic impulses* and of our *intellectual faculties*, which, however, have distinct positions. The influence of our *nutritive* system is limited to our *instincts* properly so called. Our *intellectual functions* and our *impulses to action* have neither of them any direct participation in that influence. The *speculative* and the *active* regions of the brain communicate through the nerves only with the senses and the muscles. That communication gives us the perception of the outer world, and the power of modifying it. On the other hand, the *affective* region, which forms the largest mass of the brain, has *no direct communication with the outer world*. It is only indirectly connected with it through its relations with the Intellectual and Active regions. But, besides this connection with the other parts of the brain, special nerves bring the Affective region into the closest relation with the most important organs of our Nutritive system; and thus a powerful means may be eventually secured for the reciprocal improvement of Man's *moral* and *physical* nature.*

The Positive conception of human nature rests the unity of Man on the constant subordination of the Intellect to the Heart, and thus it is in accordance with the general experience of mankind. The Intellect and Activity cannot con-

The brain and its functions.

Positive theory of man's unity.

* For the organs of the brain and their respective functions, see Table C. at end.

stitute Man's true unity, on account of the intermittence of their functions—resting as they do alternately, like the senses and muscles which they respectively bring into play. True unity cannot be intermittent. Now the functions of Affection are never suspended. The direct connection between the *affective* and *nutritive* life shows that the first is as continuous as the second. To harmonize this necessary continuity with the intermittent character common to the whole life of Relation,* all we have to do is to consider the double structure of the brain. All the organs of the brain are, as the senses and muscles are, composed of two symmetrical portions, separate or contiguous, each of which can function whilst the other rests. Such an alternation allows the feelings a continuous existence, in spite of the general intermittence of the brain.

Principle
of classification.

Instincts
are 1 to 10
in Table C
at end.

The classification of the organs of the brain offers throughout a fresh application of the universal principle of *decreasing generality*. This principle may be traced most clearly in the case of the *instincts*, as they are more numerous and more marked in character. Their decrease in generality, in proportion as they become nobler and less energetic, is fully verified in the whole of the animal series. In the lowest stage we find simply the fundamental instinct of *individual preservation*. There is as yet no complete *separation of the sexes*. Then, in succession, we see the other instincts added, first the *personal*, then the *social*. Man is the limit of the series.

The great
problem of
Man's ex-
istence.

The most difficult problem of Man's existence is to secure the gradual *predominance of sociality over personality*. To understand how this may be done, we must begin by comparing the two opposite forms which our Moral unity might naturally take, according as its internal basis should be egoistic or altruistic. A unity resting upon personality

* The life of *relation* is contrasted with the life of *nutrition*: the former is also called the *animal* life, and the latter the *vegetable* life. For the laws of the *vegetable* and *animal* life respectively, see pp. 57-59.

as its basis would require not merely the absence of every impulse of a sympathetic character, but also the preponderance of one single selfish instinct. Now this is only found in the lowest animals. With them the *instinct of nutrition* absorbs everything, especially where there is no distinction of sex. But except in them, and most particularly in man, this primary want once supplied, there is scope left for the prevalence in succession of several *personal instincts*. These are nearly equal in point of energy, and so would mutually neutralize the conflicting claims of each to the entire command of our existence as Moral beings. Unless they were all brought into subordination to affections resting on some outward object, the Heart would be for ever agitated by internal conflicts between the *impulses of the senses* and the stimulus of *pride* or of *vanity*, supposing that *avarice* should cease to reign together with the purely *bodily wants*. Moral unity, then, is impossible in the case of any being absolutely under the dominion of *personal* affections, which prevent his living for others. Unity in the *altruistic* sense does not, as the egoistic unity does, require the entire sacrifice to itself of the inclinations which are contrary to it in principle. All it asks is that they shall be wisely subordinate to the predominant affection. When it condenses the whole of sound Morality in its law of *Live for others*, Positivism allows and consecrates the satisfaction of our several personal instincts. It considers such satisfaction indispensable to our natural existence, which is and always must be the foundation for all our higher attributes. Owing to the strength of the egoistic instincts, Man's *moral improvement* must always be the principal consideration, and the great object of all his efforts. The possibility of completely realizing such improvement rests entirely on the *social* existence of Man, in accordance with the natural law which *develops or restrains our functions and our organs in proportion to their exercise or disuse*. As a fact, our

Moral
unity im-
plies living
for others.

domestic and *civic* relations have a tendency to keep within due bounds our *personal* instincts, as the result of the struggles between individuals to which these instincts give rise. On the other hand, these relations favour the growth of our feelings of *benevolence*, the only ones that admit of a simultaneous development in all. And this development is, by its nature, continuous, although it finds necessarily a limit in the aggregate of the material conditions of our existence.

Virtue will
always re-
quire a cer-
tain effort.

Our harmony as moral beings is impossible on any other foundation but *altruism*. None but the sympathetic instincts can have free scope without any check; for in giving them play, each individual is aided by all the others, whereas his personal instincts, on the contrary, find a constant check from others. In this way it will appear that Happiness and Duty must necessarily coincide. Of course, there is no doubt that virtue will always remain *an effort over oneself in favour of others*: we are so imperfect by nature that we shall always need a real *effort* to subordinate our personal to our social tendencies. But the triumph once gained, our social instincts have a natural tendency, putting aside the power of *Habit*, to gain strength and to grow, by virtue of the incomparable charm inherent in *Sympathy*, whether of *Feeling* or in *Action*.*

* The student is recommended to examine carefully the Tables at the end. These Tables will be found to contain an almost complete Synopsis of Positivism.

APPEND.IX.

APPENDIX.

A.

POSITIVE MORALITY.*

To form a definite system of universal Morality is the ultimate object of all Philosophy, and the starting point of all Polity. Morality, the end of Philosophy.

To the Positivist the object of Morals is to make our *sympathetic* instincts preponderate, as far as possible, over the *selfish* instincts,—*social* feelings over *personal* feelings. The object of Morals.

It is one of the first principles of Biology that *organic* life always preponderates over *animal* life. By this principle the Sociologist explains the superior strength of the self-regarding instincts, since these are all connected, more or less closely, with the instinct of self-preservation. But although there is no evading this fact, Sociology shows that it is compatible with the existence of benevolent affections. The great problem, then, is to raise social feeling by *artificial* effort to the position which, in the *natural* condition, is held by selfish feeling. The solution is to be found in another biological principle, *namely*, that functions and organs are developed by constant exercise, and atrophied by prolonged inaction. Now the effect of the Social state is that, while our sympathetic instincts are constantly stimulated, the selfish propensities are restricted; since, if free play were given to them, human intercourse would very shortly become impossible. Thus it compensates to some extent the natural weakness of the Sympathies that they are capable of almost indefinite extension, whilst Self-love meets inevitably with a more or less efficient check. Both these tendencies naturally increase with the progress of Humanity, and their increase is the best measure of the degree of perfection that we have attained. Their growth, though spontaneous, may be materially hastened by organized intervention, both of individuals and of society, the object being to increase all favourable influences, and diminish the unfavourable. This is the object of the Art of Morals. The social state favours the subjection of self-love to social love.

But it may be hastened by organized and conscious effort.

* From the "General View of Positivism." Translated by Dr. J. H. Bridges.

Like every other art, it is restricted within certain limits. But in this case the limits are less narrow, because the phenomena, being more complex, are also more modifiable.

How Positive Morality differs from that of Theological and Metaphysical systems,

Positive Morality differs therefore from that of theological as well as of metaphysical systems. Its primary principle is the preponderance of Social Sympathy. Full and free expansion of the benevolent emotions is made the first condition of individual and social well-being, since these emotions are at once the sweetest to experience, and are the only feelings which can find expression simultaneously in all. The intuitive methods of metaphysics could never advance with any consistency beyond the sphere of the individual. Theology, especially Christian theology, could only rise to social conceptions by an indirect process forced upon it, not by its principles, but by its practical functions. Intrinsically, its spirit was altogether personal; the highest object placed before each individual was the attainment of his own salvation, and all human affections were made subordinate to the love of God. It is true that the first training of our higher feelings is due to theological systems; but their moral value depended mainly on the wisdom of the priesthood. They compensated the defects of their doctrine,—and at that time no better doctrine was available,—by taking advantage of the antagonism between the interests of the imaginary and those of the real world. The moral value of Positivism, on the contrary, is inherent in its doctrine, and can be largely developed independently of any spiritual discipline, though not so far as to dispense with the necessity for such discipline. Thus, while Morality as a science is made far more consistent by being placed in its true connection with the rest of our knowledge, the sphere of Natural Morality is widened by bringing human life, individually and collectively, under the direction and continuous influence of Social Feeling.

The principle of Universal Love must now be examined.

It has been stated that Positive Morality is brought into a coherent and systematic form by its principle of universal love. This principle must now be examined, *first*, in its application to the separate aspects of the subject, and, *subsequently*, as the means by which the various parts may be co-ordinated.

Intermediate between Self-love and Universal Benevolence are the Domestic Affections.

There are *three* successive states of Morality answering to the three principal stages of human life,—the *personal*, the *domestic*, and the *social* stage. The succession represents the gradual training of the sympathetic principle; it is drawn out step by step by a series of affections which, as it diminishes in intensity, increases in dignity. This series forms our best resource in attempting, as far as possible, to reach the normal state,—subordination of self-love to social feeling. These are the two extremes in the scale of human affections; but between them there is an intermediate degree, *viz.*, domestic attachment, and it is on this that the solution of the great moral problem depends. The love of

his family leads Man out of his original state of Self-love, and enables him to attain finally a sufficient measure of Social love. All attempts on the part of the educator to call this last into immediate action, regardless of the intermediate stage, are to be condemned as utterly chimerical and profoundly injurious. Far from being a sign of social progress, they would, if successful, be an immense step backwards, since the feeling which inspires them is one of perverted admiration for antiquity.

Domestic Life.—The first germ of social feeling is seen in the affection of the child for its parents. (i) FILIAL love is the starting-point of our moral education; from it springs the instinct of *Continuity*, and, consequently, of reverence for our ancestors. It is the first tie by which the new being feels himself bound to the whole past history of Man. (ii) BROTHERLY love comes next, implanting the instinct of *Solidarity*, that is to say, of union with our contemporaries; and thus we have already a sort of outline of social existence. With maturity new phases of feeling are developed. Relationships are formed of an entirely voluntary nature, which have a still more social character than the involuntary ties of earlier years. This second stage in moral education begins with CONJUGAL affection, the most important of all, in which perfect fulness of devotion is secured by the reciprocity and indissolubility of the bond. It is the highest type of all sympathetic instincts, and has appropriated to itself, in a special sense, the name of Love. From this most perfect of unions proceeds the last in the series of domestic sympathies—PARENTAL love. It completes the training by which Nature prepares us for *universal sympathy*: for it teaches us to care for our successors, and thus it binds us to the future, as filial love had bound us to the past.

Another relationship remains to be introduced, *viz.*, that of HOUSEHOLD SERVITUDE, which may be called indifferently *domestic* or *social*. It is a relation which, at the present time, is not properly appreciated on account of our dislike to all subjection. Its value lies in completing the education of the social instinct, by a special apprenticeship in obedience and command, both being subordinated to the universal principle of mutual sympathy.

Personal Virtues placed upon a Social Basis.

Feelings are only to be developed by constant exercise; and exercise is most necessary when the intrinsic energy of the feeling is least. It is therefore quite contrary to the true spirit of moral education to degrade Duty in questions of personal Morality to a mere calculation of SELF-INTEREST. Of course, in this elementary part of Ethics, it is easier to estimate the consequences of actions, and to show the personal utility of the rules enjoined. But this method of procedure inevitably stimulates the self-

Domestic Life systematically viewed.
(i) Filial.
(ii) Fraternal.

(iii) Conjugal.

(iv) Parental.

(v) Household servitude.

Personal Morality should not depend upon a calculation of self-interest.

Positivism
appeals to So-
cial feeling.

regarding propensities, which are already too preponderant, and the exercise of which ought, as far as possible, to be discouraged. Besides, it often results in practical failure. To leave the decision of such questions to the judgment of the individual is to give a formal sanction to all the natural differences in men's inclinations. When the only motive urged is consideration for personal consequences, every one feels himself to be the best judge of these, and modifies the rule at his pleasure. Positivism, guided by a truer estimate of the facts, entirely remodels this elementary part of Ethics. Its appeal is to *social feeling*, and not to personal, since the actions in question are of a kind in which the individual is far from being the only person interested. For example, such virtues as *temperance* and *chastity* are inculcated by the Positivist on other grounds than those of their personal advantages. He will not, of course, be blind to their individual value; but this is an aspect on which he will not dwell too much, for fear of concentrating attention on self-interest. At all events, he will never make it the basis of his precepts, but will invariably rest them upon their *social* value. There are cases in which men are preserved by an unusually strong constitution from the injurious effects of intemperance or libertinage; but such men are bound to sobriety and continence as rigorously as the rest, because, without these virtues, they cannot perform their social duties rightly. Even in the commonest of personal virtues, cleanliness, this alteration in the point of view may be made with advantage. A simple sanitary regulation is thus ennobled by knowing that the object of it is to make each one of us more fit for the service of others. In this way, and in no other, can moral education assume its true character at the very outset. We shall become habituated to the feeling of subordination to Humanity, even in our smallest actions. It is in these that we should be trained to gain the mastery over the lower propensities; and the more so, that in these simple cases, it is less difficult to appreciate their consequences.

Means by which Positive Morality is to be established.

Means by
which
Positive Mo-
rality is to be
established
are of two
kinds.

These are of two kinds: The *First* lay down the foundations of moral training for each individual: they (i) furnish *principles*, and (ii) they regulate *feelings*. The *Second* carry out the work begun, and ensure the application of the principles inculcated to practical life.—Both these functions are, in the first instance, performed *spontaneously*, under the influence of the doctrine and of the sympathies evoked by it. But for their adequate performance, a *Spiritual Power* specially devoted to the purpose, is necessary.

Moral educa- The moral education of the Positivist is based both upon Reason and

on Feeling, the latter having always the preponderance, in accordance with the primary principle of the system.

The result of the *rational* basis is to bring moral precepts to the test of rigorous demonstration, and to secure them against all danger from discussion, by showing that they rest upon the laws of our *individual* and *social* nature. By knowing these laws, we are enabled to form a judgment of the influence of each affection, thought, action, or habit, be that influence direct or indirect, special or general, in private life or in public.

tion based
upon reason
and feeling.
Influence of
Reason.

But while using the force of demonstration to an extent hitherto impossible, Positivists will take care not to exaggerate its importance. Moral education, even in its more systematic parts, should rest principally upon Feeling. The study of moral questions, intellectually speaking, is most valuable; but the effect it leaves is not directly moral, since the analysis will refer, not to our own actions, but to those of others; for all scientific investigations, to be impartial and free from confusion, must be objective, not subjective. Now to judge others without immediate reference to self is a process which may possibly result in strong convictions; but so far from calling out right feelings, it will, if carried too far, interfere with or check their natural development. Positivism is not likely to err in this direction. For no one knows so well as the Positivist that the principal source of real Morality lies in direct exercise of our social sympathies. He will spare no efforts to develop these sympathies, from the earliest years, by every method which sound philosophy can indicate. It is in this that moral education, whether private or public, principally consists; and to it mental education is always to be held subordinate.

Moral education must always rest chiefly on Feeling.

But, however efficient the training received in youth, it will not be enough to regulate our conduct in after-years, amidst all the distracting influences of practical life, unless the same Spiritual Power which provides the education prolong its influence over our maturity. Part of its task will be to recall individuals, classes, and even nations, when the case requires it, to principles which they have forgotten or misinterpreted, and to instruct them in the means of applying them wisely. And here, even more than in the work of education strictly so called, the appeal will be to Feeling rather than to pure Reason. Its force will be derived from Public Opinion strongly organized. If the spiritual power awards its praise and blame justly, public opinion will lend it the most irresistible support.

Function of
the Spiritual
Power.

It will derive
its force from
public opinion
strongly
organized.

Progress.

Progress, in the higher sense, includes improvements of three sorts, that is to say, it may be (i) Physical, (ii) Intellectual, or (iii) Moral Progress; The different kinds of progress.

(i) Physical,
which is in
fact, though
not wholly,
the same as
Material.

the difficulty of each class being in proportion to its value and the extent of its sphere. *Physical* progress, which again might be divided upon the same principle, seems, under some of its aspects, almost the same thing as *Material*. But regarded as a whole, it is far more important and far more difficult: its influence on the well-being of man is also much greater. We gain more, for instance, by the smallest addition to length of life, or by any increased security for health, than by the most elaborate improvements in our modes of travelling by land or water, in which birds will probably always have a great advantage over us. Physical progress is not exclusively confined to Man. Some of the animals, for instance, advance as far as cleanliness, which is the first step in the progressive scale.

(ii) Intellect-
tual
and

(iii) Moral.

Moral pro-
gress higher
than Intellect-
tual.

Intellectual and *Moral* progress is the only kind really distinctive of our race. Individual animals sometimes show it, but never a whole species, except as a consequence of prolonged intervention on the part of Man. Between these two highest grades, as between the two lower (*viz.*, *Physical* and *Material*), we shall find a difference of value, extent, and difficulty, always supposing the standard to be the manner in which they affect Man's well-being, collectively or individually. To strengthen the *Intellectual* powers, whether for art or for science, whether it be the powers of observation or those of induction and deduction, is, when circumstances allow of *their being made available for social purposes*, of greater and more extensive importance than all physical, and, *à fortiori*, than all material improvements. But *moral* progress has even more to do with our well-being than intellectual progress. The moral faculties are more modifiable, although the effort required to modify them is greater. If the Benevolence or Courage of the human race were increased, it would bring more real happiness than any addition to our intellectual powers. Therefore, to the question "what is the true object of human life, whether looked at collectively or individually?" The simplest and most precise answer would be, *the perfection of our moral nature*, since it has a more immediate and certain influence on our well-being than perfection of any other kind. All the other kinds are *necessary*, if for no other reason than to *prepare the way for this*; but from the very fact of this connection, it may be regarded as their representative, since it involves them all implicitly, and stimulates them to increased activity. Keeping then to the question of *Moral perfection*, we find two qualities standing above the rest in practical importance, *viz.*, Sympathy and Energy. Both these qualities are included in the word *Heart*, which, in all European languages, has a different meaning for the two sexes. The whole tendency of Positivism is to encourage Sympathy; since it subordinates every thought, desire, and action to social feeling. Energy is also pre-supposed, and at the same time fos-

The word
Heart.

tered by the system, for it removes a heavy weight of superstition, it reveals the true dignity of man, and supplies an unceasing motive for individual and collective action.

B.

POSITIVE RELIGION.*

The term 'Religion' expresses that state of perfect *unity* which is the distinctive mark of Man's existence, both individual and social, when all the constituent parts of his nature, *moral* as well as *physical*, are made to converge towards one common purpose.† The object of Religion is two-fold: (i) to regulate the nature of each individual; (ii) to afford a rallying-point for all the separate individuals of the community. The full attainment of *perfect unity*, for the individual or for society, is never possible, so complicated is our existence. This definition of Religion, consequently, is meant to convey an idea of the unchanging type towards which, by a combination of all our exertions, we gradually approximate. Man's happiness and merit consist in drawing, as near as possible, to this unity. Its gradual development is the real measure of our progress towards perfection, as individuals or as societies.

Now, as a high value was always set on this synthetical state, attention was naturally concentrated on the means of attaining it. Thus men were led to take the means for the end, and to transfer the name of *religion* to any of the systems of opinions which it represented. At first sight, these numerous forms of belief appear irreconcilable. Positivism, however, can bring them into an essential agreement, by viewing each in reference to the purpose it answered in its own time and country. There is, at bottom, but one religion, at once universal and final. To it all the partial and provisional religions more and more pointed, so far as the whole state of things at the time allowed. The various religions of Man have been empirical. Positivism substitutes for them a system-

* Several portions of this sketch have already been given in the *Brief View*. (See Part II., pp. 28—33; 94, 95). It has been thought advisable to repeat such portions here, in order to present this part of the subject as a complete whole.

† The term 'Religion' would be equivalent to 'Synthesis' were it not that this last, not by force of its composition, but by universal custom, is now limited to the domain of the intellect, whilst the other embraces all the attributes of Man. 'Religion' may be regarded as including in one word 'Sympathy,' 'Synthesis,' and 'Synergy'; thus indicating the harmony of the whole Man,—of Feeling, Intellect, and Action.

atic religion, developing the unity of man; it having at length become possible to constitute such a religion, immediately and completely, by combining the results of our previous unsystematic state. As a natural consequence, then, of its principles, Positivism removes the antagonism of the different religions which have preceded it, for it claims as its own peculiar domain that common ground on which they all instinctively rested. Nor could the doctrine of Positivism be universally received, were it not for its relative character. This secures for it, in spite of its anti-theological principles, by the nature of the case, strong affinities with every form of belief that has been able for a time to undertake the guidance of any part of the human race.

To the priest should belong man's physical as well as his moral nature.

The idea of Man's unity, in order to be complete, must include his physical as well as his moral nature. The physical and moral elements in Man are so bound up together that no true harmony is possible if they are separated. The arbitrary separation of the two, which now exists, precludes any real and stable unity.* In the natural order of things, the discipline of the soul should be entrusted to the same hands to which is committed the management of the body. The art of Man and the science of Man are each of them inseparable from the other; they have a common destination, though the object they have in view may present itself under different aspects. But it is not, therefore, divisible; on the contrary, all its parts are intimately connected. No sound treatment of either body or mind is possible, now that the physician and the priest make an exclusive study, the one of the physical, the other of the moral nature of man—not to speak of the philosopher, who, in our modern anarchy, wrests from the priesthood the domain of the intellect, leaving it only the heart.

The general conditions of Religion.

The general conditions upon which Religion depends are two-fold,—having reference (1) partly to our own internal constitution, and (2) partly to the world without. To constitute a complete and durable harmony, what is wanted, is really, to *bind together* Man's inner nature by love, and then to *bind†* the Man to the outer world by faith. Such, generally stated, is the necessary participation of the heart and intellect, respectively, in reference to the synthetical state, or unity, of the individual or the society.

What unity implies.

Unity implies, above all, one feeling to which all our different inclinations can be subordinated. For, as our actions and our thoughts

* In the ancient theocracies (which present the most complete and most durable form of the supernatural *régime*), this groundless division did not exist. In them the art of preserving health and of curing diseases was always a mere adjunct of the priestly functions.

† Comte adopts the derivation of *religion* from the Latin word *religare* 'to bind.'

are always swayed by our affections, harmony would be unattainable by Man if these affections were not co-ordinated under the preponderance of one instinct.

This is the condition on which our internal unity depends. But it would be inadequate, did not our intelligence make us recognise, outside of us, a superior power,* to which our existence must always be in subjection, even whilst we attempt to modify it. To qualify us better for subjects of this ultimate rule,—this is the primary reason why our moral harmony, as individuals or as societies, is indispensable. And, reversing the process, this predominance of the external tends to regulate the internal, by favouring the ascendancy of that instinct which most easily accepts such a necessity. So there is a natural connexion between the two general conditions on which religion depends, especially when the external order of things can become the object on which the inward feeling can rest.

An external power necessary to secure their internal harmony.

In considering Man's internal unity, a difficulty presents itself. Our personal instincts have, undoubtedly, greater energy than our sympathetic tendencies. Now the preponderance of these personal instincts, which seems a reason for their being made the natural centre of our moral existence, would, on the other hand, make our personal unity almost incompatible with any social unity. Yet as the harmony of the individual has not been found irreconcilable with that of the society, it must follow that the two are in themselves entirely compatible.

Difficulty of securing internal unity.

We have here touched upon the most difficult problem of Man's existence. That problem is, to secure the gradual predominance of sociability over personality; whereas, when left to themselves, personality is predominant. The better to understand how this may be done, we must begin by comparing the two opposite forms which our moral unity might naturally take, according as its internal basis should be egoistic or altruistic (personal or relative).

The great moral problem.

A unity, which rested simply upon personality, would require not merely the absence of every impulse of a sympathetic character, but also the preponderance of one single selfish instinct. Now this is only found in the lowest animals. With them the instinct of nutrition absorbs every thing, especially when there is no distinction of sex. But in the higher animals, and most particularly in Man, this primary want once supplied, there is scope left for the prevalence in succession of several personal instincts. These are nearly equal in point of energy, and so would mutually neutralize the conflicting claims of each to the entire command of our existence as moral beings. Unless they were all

Moral unity cannot rest upon a personal basis.

* This power is the *external order*, which necessarily limits all our thoughts, feelings, and actions.

brought into subordination to affections resting upon some outward object, the heart would be for ever agitated by internal conflicts between the impulses of the senses and the stimulus of pride or of vanity, supposing that avarice, strictly so called, should cease to reign, together with the purely bodily wants. Moral unity, then, is impossible, even in a solitary existence, in the case of any being absolutely under the dominion of personal affections, which prevent his living for others. We find instances in several of the wild animals. They are seen, putting aside some temporary congregation, to oscillate generally between a disorderly activity and an ignoble torpor, the result of their not finding outside of themselves the principal motives for their conduct.

The unity which depends on altruism does not require a complete sacrifice of the personal instincts.

Thus it becomes manifest that there is a natural coincidence between the conditions on which the individual, and those on which the social, harmony depends. Still, however, it remains to be shown how man's strongest instincts can be habitually laid aside. To show this, it must be observed that unity in the altruistic sense, does not, as the egoistic unity does, require the entire sacrifice to itself of the inclinations which are contrary to it in principle. All it asks is, that they shall be wisely subordinate to the predominant affection. Positivism (when it condenses the whole of sound morality in its maxim *Live for others*) allows and consecrates the constant satisfaction of our several personal instincts. It considers such satisfaction indispensable to our natural existence, which is, and always must be, the foundation for all our higher attributes. Allowing this, it blames,—however estimable the motives that lead to them often may be,—any austerities which, by lessening our strength, make us less fit to serve others. It recommends attention to ourselves in the interest of society, and so at once raises and regulates such attention. The two extremes of excessive care and culpable negligence should be equally avoided.

The sanction of our personal instincts compatible with the habitual superiority of our weak sympathetic impulses.

Still, even when thus limited, our egoistic instincts, on account of their strength and the constant stimulus of the bodily wants, will often be an obstacle to the habitual triumph of our weak sympathetic impulses. Hence it is that moral improvement will always form the principal object on which Man must exert his art. Our constant efforts, both as individuals and societies, though they bring us nearer to moral perfection, never enable us to realize it completely. The solution of the difficulty is a *progressive* one. Its possibility rests entirely on the social existence of man, in accordance with the natural law which develops or restrains our functions and our organs in proportion to their exercise or disuse. As a fact, our domestic and civic relations have a tendency to keep within due bounds our personal instincts, as the results of the struggles between individuals to which these instincts give rise. On the other hand, these same relations favour the growth of our feelings

of benevolence, the only ones that admit of a simultaneous development in all. And this development is, by its nature, continuous, as the mutual stimulus is continuous, although it finds necessarily a limit in the aggregate of the material conditions of our existence.

Hence it is that a real moral unity could only come into existence in the case of Man. For social progress must be the exclusive possession of the best organized of the races capable of society, except so far as others may join it as free auxiliaries. Still, though such a harmony cannot be so developed elsewhere, it is easy to trace its beginning in many of the higher animals. From them were in fact drawn the first scientific proofs of the natural existence of disinterested affections.

Moral unity
only possible
in the case
of man.

Religion, considered intellectually, depends on faith. Practically, the faith of Man never had but one *essential* object. This was to form a conception of the order under which Man lives, with the view of determining his relation generally with that order. Man might ascribe that order to fictitious causes, or he might study its real laws; in either case, his object was to estimate that order which was independent of him, with the view of submitting to it better, and of attaining a greater power of modifying it. Every system of religious doctrines necessarily rests on some explanation, no matter what, of the World and of Man—the two-fold object at all times of our thoughts, whether directed to speculation or to action.

Intellectual
conditions of
Religion.

Faith, in the Positive sense, has for its proper office the setting forth of the real *laws* of the different phenomena that are open to observation, whether internal or external. By the laws of phenomena are meant their unvarying relations of succession and resemblance, by which we are able to foresee some by virtue of our knowledge of others. Such faith puts aside, as absolutely beyond our reach and essentially conducive to no useful result, every inquiry into the *causes*, either first or final, of any events whatever. In its theoretical conceptions, it never explains *why* a thing is; it limits itself to the question *how* it is. But when it is pointing out the means of guiding our activity, it takes the contrary course, and puts forward, in constant prominence, the end to be attained, as in such cases the practical effect is certainly the result of an intelligent will.

Office of
Positive
Faith.

The religion of Positivism, then, adopts, as its fundamental dogma, the existence of an order which admits of no variation, and to which all events of every kind are subject. This order is at once *objective* and *subjective*; in other words, it concerns equally the *object* contemplated and the *subject* which contemplates. Physical laws, in fact, imply logical laws, and *vice versâ*. If our understanding did not of itself obey any rule, it would never be able to appreciate the external harmony. And as the World is simpler and more powerful than Man, the regular

Existence of
an order,
both *objective*
and *subjective*.
This is
the chief
dogma of
Positivism.

action of Man would be still less compatible with the absence of order in the World. All Positive belief, then, rests on this two-fold harmony between the object and the subject.

How the conception of this order has advanced.

That there is such an order can be shown as a fact, but it cannot be explained. So far from it, it supplies the only possible source of rational explanation. Such explanation consists in bringing under general laws each particular event, which thus comes within the sphere of prevision based on systematic principles, the really distinctive end that all true science proposes to itself. And therefore the universal order was not recognized so long as the idea prevailed of an arbitrary will, to which men naturally at first attributed all the most important phenomena. It was recognized at last in reference to the simplest events, in defiance of the contrary opinions, on the evidence of experience constantly recurring and never belied. From the simpler, its recognition gradually extended to the more complex events. Not till our own time was its recognition complete, for it embraces now its last domain; it represents as subject to invariable laws the highest phenomena—man's intelligence and his social existence—a point still denied by many cultivated minds.

This order susceptible of modification by man.

In considering the influence of the Positive Faith upon the *action* of Man, it must be borne in mind that the laws we are concerned with are such as are susceptible of modification. Whilst phenomena were attributed to the arbitrary will of some being, an absolute fate was a conception necessary as the correction of an hypothesis, the direct consequence of which was the non-existence of any real order. Later, the discovery of natural laws had the same general tendency; for the laws first discovered were those which regulated the events of astronomical science—events entirely out of the reach of Man's interference. But as the knowledge of the order of things gradually extended, men came to regard that order as essentially admitting modifications, even by the agency of Man. It becomes more susceptible of modification as the phenomena become more complicated. At the present day, we do not consider even the order of the heavenly bodies exempt from the *idea* of modification. Its superior simplicity allows us more easily to conceive improvements in it. The object of such conception should be to correct the spirit of blind respect, though our weakness in regard to physical means may for ever debar us from realising the improvements we conceive.

The extent of this modification.

All events equally, even the most complex, depend on some fundamental conditions which admit of no change. But in all cases, even the most simple, it is also true that the secondary arrangements may be modified, and very generally they may be so by our intervention. The modifications introduced in no way impair the validity of the general

principle, that the laws of nature are invariable. For the modifications never can be arbitrary. In their nature and degree they must obey appropriate rules which are the complement of the domain of science. An entire immutability would be so contrary to the very idea of law, that this idea in all cases expresses constancy perceived in the midst of variety.

We find, then, that the order of nature always answers to the idea of a necessity admitting modifications, and as such becomes the indispensable basis of the order which Man introduces. Our life is really destined to be a compound of resignation and action. The two are not incompatible; far from it. Action rests directly on the foundation of resignation. A sound judgment leads us to submit to the fundamental laws which concern us, as the only means of preventing all our purposes, of whatever nature, from becoming vague and uncertain; the only means, therefore, of enabling us to practise a wise interference in accordance with the secondary rules.

Having now shown that the Positive faith is favourable to Man's action, it remains to be shown how that faith can be brought into full harmony with Man's feelings and noblest aspirations. It is easy to understand that the fundamental dogma of Positivism supplies us with a strong basis for moral discipline in two ways: (1) by bringing our personal inclinations under the control of an external power; (2) by awakening our instincts of sympathy to make us more wisely submit to or modify the necessity which presses on us all in common. These attributes are valuable, but they are not sufficient. It must be shown that Positivism can offer a direct stimulus to those holy affections which constitute the most important province of Religion.

Now, in examining Positivism from this strictly religious point of view, we must not limit ourselves to the philosophical conception which is the offspring of the scientific preparation: we must go beyond this, and complete the study of the real order of nature. We shall then see the Positive system of dogmas finally group itself around a synthetic conception, as favourable to the heart as it is to the intellect.

The imaginary beings, whom religion provisionally introduced for its purposes, were able to inspire lively affections in Man—affections which were even most powerful under the least elaborate of the fictitious systems (*i. e.*, *Fetichism*). The immense scientific preparation required as an introduction to Positivism, for a long time seemed to deprive it of any such valuable aptitude. Whilst the philosophical initiation only comprehended the order of the material world, nay, even when it had extended to the order of living beings, it could only reveal laws which were indispensable for our action; it could not furnish us with any direct object for an enduring and constant affection. This is no longer the

Our life a compound of resignation and action.

How Positivism supplies a basis for moral discipline.

It furnishes a synthetic conception favourable to the heart.

At first it seemed as if Positivism could not reach the affections.

case since the completion of our gradual preparation by the introduction of the special study of the order of Man's existence, whether as an individual or as a society.

This no longer so. Humanity is now capable of being the centre of our affections.

This is the last step in the process. We are now able to condense the whole of our Positive conceptions in the one single idea of an immense and eternal Being, Humanity, destined by sociological laws to constant development under the preponderating influence of biological and cosmological necessities. This, the real Great Being, on whom all, whether individuals or societies, depend as the prime mover of their existence, becomes the centre of our affections. They rest in it by as spontaneous an impulse as do our thoughts and our actions. This Being, by its very idea, suggests at once the sacred formula of Positivism:—*Love as our principle; Order as our basis; and Progress as our end.* Its compound existence is ever founded on the free concurrence of independent wills. All discord tends to dissolve that existence, which, by its very notion, sanctions the constant predominance of the heart over the intellect as the sole basis of our true unity. So the whole order of things henceforth finds its perfection in the being who studies it and is ever perfecting it. The struggle of Humanity against the combined influence of the necessities it is obliged to obey, growing as it does in energy and success, offers the heart no less than the intellect a better object of contemplation than the capricious omnipotence of its theological precursor,—capricious by the very force of the term omnipotence. Such a Supreme Being is more within the reach of our feelings as well as of our conceptions, for it is identical in nature with its servants, at the same time that it is superior to them. As such it more powerfully excites them to an activity, the aim of which is its preservation and amelioration.

Physical labour a blessing, not a curse.

The physical labour necessitated by our bodily wants, though selfish in its origin, need ultimately present no obstacle to the predominance of love as an all-pervading influence. For, as Man's action on matter becomes more and more collective, it tends more and more to assume an altruistic character, though the impulse of egoism must be ever indispensable to set it in motion. As each habitually labours for the benefit of others, he develops, by such conduct, the sympathies of others, granting that his conduct meets with sufficient appreciation. The toilsome servants of Humanity stand in need of nothing but a complete and familiar consciousness of the true nature of their life. This consciousness is destined to be the natural result of an adequate extension of Positivism. It would even now appear that sympathy is the natural tendency of pacific activity, were the industrial life (which is at present subject to no systematic discipline), organized as the soldier's life is. The great moral results (imperfect as they are) obtained in the case of the soldier,

are a sufficient indication of what the industrial life will produce. The instinct of construction may even be expected to react in the direction of sympathy with greater directness and completeness than the instinct of destruction.

Thus the activity of Man, which is by its nature subordinate to Faith; can also be made subordinate to Love, though at first sight it seems to reject its sway. And hence it is manifest that the Positive doctrine fulfils all the essential conditions of Religion, being adapted equally to the three great divisions of our existence—loving, thinking, and acting.

The Positive doctrine fulfils all the conditions of Religion.

Humanity.

Positivism defines Humanity as *the whole* of human beings, past, present, and future. The word *whole* indicates that we must not take in all men, but those only who are really capable of assimilation, in virtue of a real co-operation on their part in furthering the common good. All are necessarily born children of Humanity, but all do not become her servants. Many remain in the parasitic state, which, excusable during their education, becomes blamable when that education is complete. Times of anarchy bring forth swarms of such creatures—may, even enable them to flourish—though they are, in sad truth, but burdens on the true Great Being. These mere digesting machines are no real part of Humanity. They may be rejected, and to make up for their loss we may associate with the Great Being* all the animals who lend a noble aid. Wherever we find habitual co-operation in forwarding the destinies of Man, and that co-operation given voluntarily, there the being which gives it becomes a real element of this compound existence; and the degree of importance it attains is proportioned to the dignity of the species to which it belongs, and to its own individual value. To form a right estimate of this indispensable complement of human existence, let us imagine ourselves without it. We should then be led without hesitation to look on many horses, dogs, oxen, &c., as more estimable than certain men.

Humanity defined.

Such is the primary conception which Positivism affords of the combined system of human action. In it naturally our attention is directed on *solidarity*, rather than on *continuity*. This last idea must, however, in the end be the predominant one, though at first it attracts less notice, as it requires a deeper examination to discover it; for in a very short time the progress of society comes to depend more on the idea of time than on that of space.

The continuity of the race must be considered.

* The Great Being of Positivism is that Being in which is summed up the whole order of things—not merely the order of Man, but also that of the external World.

The living
are under the
government
of the dead.

The social existence of Man really consists much more in the continuous succession of generations than in the solidarity of the existing generation. The living are always, by the necessity of the case (and the more so the more we advance in time), under the government of the dead. Such is the fundamental law of human order.

The *objective*
and the *sub-*
jective life.

To enable us to grasp this law more fully, let us distinguish the two forms of existence which are the portion of each servant of Humanity. The one is only for a time, but it is conscious. This constitutes the life of man, properly so called. The other, with no direct consciousness on the part of Man, is yet permanent, and does not begin till after death. The first involves the presence of the body, and may be termed *objective*, to mark more clearly its contrast with the second. That second leaves each one to exist only in the heart and intellect of others, and deserves the name of *subjective*. This is the noble immortality, necessarily disconnected with the body, which Positivism allows the human soul. It preserves this valuable term *soul* to stand for the whole of our intellectual and moral functions, without involving any allusion to some supposed entity answering to the same.

The soul.

The relative
importance
of the *object-*
ive and the
subjective
portions of
the race.

Following out this high conception the human race is composed of two bodies, both of which are essential. Their proportion is constantly varying; and the tendency of this variation is to secure a greater influence for the dead over the living in every actual operation. The action and its result are most dependent on the objective element; the impulse and the regulative power are principally due to the subjective. We have received large endowments from the liberality of our predecessors; we hand on gratuitously to our successors the whole domain in which Man lives and moves; and the addition made in each successive generation becomes smaller and smaller in proportion to the amount received. Our exertions are necessarily gratuitous. They meet with an adequate reward in our subjective incorporation, by which we are enabled to perpetuate our services under an altered form.

The share of
the individ-
ual in the
work of the
Great Being.

Humanity, as a whole, must ever constitute the principal motor of every operation we undertake, be it physical, intellectual, or moral. At the same time, it must never be forgotten that the Great Being cannot act except through individual agents. This is the reason why the objective part of the race, though brought more and more into subordination to the subjective, must always be indispensable to the subjective for it to exert any influence. The objective element collectively shares in this agency. Analyse this collective action, and we arrive at the fact that it is the result of the free concurrence of the efforts of simple individuals.

Every noble
human being
may co-
operate.

It is doubtless true that but few of us are warranted in thinking ourselves indispensable to Humanity. Such language is only applicable to

those to whom are really due the principal steps in our progress. Still, every noble human being may, and should habitually, feel that his personal assistance in this immense work of the evolution of the race is of use; for that work would be ended at once if all its individual co-operators were at any one time to disappear. The development, and of course also the preservation, of the Great Being must then depend, in any case, on the free services of its different children, though the inactivity of any one in particular is, generally speaking, not an irreparable evil.

C.

ATHEISM.*

THE fact of entire freedom from theological belief being necessary before the Positive state can be perfectly attained, has induced superficial observers to confound Positivism with a state of pure negation. Now this state was at one time, and that even so recently as the last century, favourable to progress; but at present, in those who unfortunately still remain in it, it is a radical obstacle to all sound, social, and even intellectual organisation. I (Comte) have long ago repudiated all philosophical or historical connection between Positivism and what is called Atheism. But it is desirable to expose the error somewhat more clearly.

Atheism, even from the intellectual point of view, is a very imperfect form of emancipation; for its tendency is to prolong the metaphysical stage indefinitely, by continuing to seek for new solutions of Theological problems, instead of setting aside all inaccessible researches on the ground of their utter inutility. The true Positive spirit consists in substituting the study of the invariable Laws of phenomena, for that of their so-called Causes, whether proximate or primary; in a word, in studying the *How* instead of the *Why*. Now this is wholly incompatible with the ambitious and visionary attempts of Atheism to explain the formation of the Universe, the origin of animal life, &c. The Positivist, comparing the various phases of human speculation, looks upon these scientific chimeras as far less valuable even from the intellectual point of view than the first spontaneous inspirations of primeval times. The principle of Theology is to explain every thing by supernatural *Wills*. That principle can never be set aside until we acknowledge the search for *Causes* to be beyond our reach, and limit ourselves to the knowledge of *Laws*. As long as men persist in attempting to answer the insoluble questions which occupied the attention of the childhood of our race, by far the more rational plan is to do as was done then, that is, simply to give free

Superficial
observers
have con-
founded
Positivism
with Athe-
ism.

Atheism an
imperfect
form of eman-
cipation.

Theology
more rational
than Athe-
ism.

* See *General View of Positivism* (translated by Dr. J. H. Bridges), p. 49.

The primitive beliefs have not been disproved.

play to the imagination. These spontaneous beliefs have gradually fallen into disuse, not because they have been disproved, but because mankind has become more enlightened as to its wants and the scope of its powers, and has gradually given an entirely new direction to its speculative efforts. If we insist upon penetrating the unattainable mystery of the essential Cause that produces phenomena, there is no hypothesis more satisfactory than that they proceed from Wills dwelling in them or outside them; an hypothesis which assimilates them to the effect produced by the desires which exist within ourselves. Were it not for the pride induced by metaphysical and scientific studies, it would be inconceivable that any Atheist, modern or ancient, should have believed that his vague hypotheses on such a subject were preferable to this direct mode of explanation. And it was the only mode which really satisfied the reason, until men began to see the utter inanity and inutility of all search for absolute truth. The Order of Nature is doubtless very imperfect in every respect; but its production is far more compatible with the hypothesis of an intelligent Will than with that of a blind mechanism. Persistent Atheists therefore would seem to be the most illogical of theologians: because they occupy themselves with theological problems, and yet reject the only appropriate method of handling them. But the fact is that pure Atheism, even in the present day, is very rare. What is called Atheism is usually a phase of Pantheism, which is really nothing but a relapse, disguised under learned terms, into a vague and abstract form of Fetichism. And it is not impossible that it may lead to the reproduction in one form or other of every theological phase, as soon as the check which modern society still imposes on metaphysical extravagance, has become somewhat weakened. The adoption of such theories as a satisfactory system of belief, indicates a very exaggerated or rather false view of intellectual requirements and a very insufficient recognition of moral and social wants. It is generally connected with the visionary but mischievous tendencies of ambitious thinkers to uphold what they call the empire of Reason. In the moral sphere, it forms a sort of basis for the degrading fallacies of modern metaphysicians as to the absolute preponderance of self-interest. Politically its tendency is to unlimited prolongation of the revolutionary position: its spirit is that of blind hatred to the past: and it resists all attempts to explain it on Positive principles, with the view of disclosing the future. Atheism, therefore, is not likely to lead to Positivism except in those who pass through it rapidly as the last and most short-lived of metaphysical phases. Negation offers but a feeble and precarious basis for union: and disbelief in Monotheism is of itself no better proof of a mind fit to grapple with the questions of the day than disbelief in Polytheism or Fetichism, which no one would maintain to be an adequate ground for claiming intellectual sympathy. The Atheistic

Atheists are the most illogical of theologians.

But real Atheism is now-a-days very rare.

Atheism tends to uphold what is called the empire of Reason.

Its moral tendency.

Its political tendency.

Atheism seldom likely to lead to Positivism.

phase, indeed, was not really necessary, except for the revolutionists of the last century, who took the lead in the movement towards a radical regeneration of society. The necessity has already ceased; for the decayed condition of the old system makes the need of regeneration palpable to all. Persistence in anarchy,—and Atheism is the most characteristic symptom of anarchy,—is a temper of mind more unfavourable to the organic spirit, which ought by this time to have established its influence, than sincere adhesion to the old forms. This latter is of course obstructive; but at least it does not hinder us from fixing our attention upon the great social problem. Indeed, it helps us to do so: because it forces the new philosophy to throw aside every weapon of attack against the older faith except its own higher capacity of satisfying our moral and social wants. But in the Atheism maintained by many metaphysicians and scientific men of the present day, Positivism, instead of wholesome rivalry of this kind, will meet with nothing but barren resistance. Anti-theological as such men may be, they feel unmixed repugnance for any attempts at social regeneration, although their efforts in the last century had to some extent prepared the way for it.

The Atheistic phase was necessary in the 18th century, but is no longer wanted now.

D.

MATERIALISM.*

THE charge of Materialism, which is often made against Positive Philosophy, * * * originates in the course of scientific study upon which the Positive system is based. In answering the charge, I (Comte) need not enter into any discussion of impenetrable mysteries. Our theory of development will enable us to see distinctly the real ground of the confusion that exists upon the subject.

Positivism charged with Materialism.

Positive science was for a long time limited to the simplest subjects: it could not reach the highest except by a natural series of intermediate steps. As each of these steps is taken, the student is apt to be influenced too strongly by the methods and results of the preceding stage. Here, as it seems to me, lies the real source of that scientific error which men have instinctively blamed as *Materialism*. The name is just, because the tendency indicated is one which degrades the higher subjects of thought by confounding them with the lower. It was hardly possible that this usurpation by one science of the domain of another should have been wholly avoided. For, since the more special phenomena do really depend upon the more general, it is perfectly legitimate for each science

The source of Materialism.

* See *General View of Positivism* (translated by Dr. J. H. Bridges), p. 52.

to exercise a certain deductive influence upon that which follows it in the scale. By such influence the special inductions of that science were rendered more coherent. The result, however, is that each of the sciences has to undergo a long struggle against the encroachments of the one preceding it; a struggle which, even in the case of the subjects which have been studied longest, is not yet over. Nor can it entirely cease until the controlling influence of sound philosophy be established over the whole scale, introducing juster views of the relations of its several parts, about which at present there is such irrational confusion. Thus it appears that Materialism is a danger inherent in the mode in which the scientific studies, necessary as a preparation for Positivism, were pursued. Each science tended to absorb the one next to it, on the ground of having reached the Positive stage earlier and more thoroughly. The evil then is really deeper and more extensive than is imagined by most of those who deplore it. It passes generally unnoticed except in the highest class of subjects. These doubtless are more seriously affected, inasmuch as they undergo the encroaching process from all the rest; but we find the same thing in different degrees, in every step of the scientific scale. Even the lowest step, Mathematics, is no exception, though its position would seem at first sight to exempt it. To a philosophic eye there is Materialism in the common tendency of mathematicians at the present day to absorb Geometry or Mechanics into the Calculus, as well as in the more evident encroachments of Mathematics upon Physics, of Physics upon Chemistry, of Chemistry, which is more frequent, upon Biology, or lastly, in the common tendency of the best biologists to look upon Sociology as a mere corollary of their own science. In all these cases it is the same fundamental error: that is, an exaggerated use of deductive reasoning; and in all it is attended with the same result; that the higher studies are in constant danger of being disorganised by the indiscriminate application of the lower. All scientific specialists, at the present time, are more or less materialists, according as the phenomena they study are more or less simple and general. Geometricians, therefore, are more liable to the error than any others; they all aim, consciously or otherwise, at a synthesis in which the most elementary studies, those of Number, Space, and Motion, are made to regulate all the rest. But the biologists, who resist this encroachment most energetically, are often guilty of the same mistake. They not unfrequently attempt, for instance, to explain all sociological facts by the influence of climate and race, which are purely secondary; thus showing their ignorance of the fundamental laws of Sociology, which can only be discovered by a series of direct inductions from history.

The evil of Materialism deeper than is generally imagined.

In all cases it is due to an exaggerated use of deductive reasoning.

Hence it will appear how it is that it

This philosophical estimate of Materialism explains how it is that it has been brought as a charge against Positivism, and at the same time

proves the deep injustice of the charge. Positivism, far from countenancing so dangerous an error, is, as we have seen, the only philosophy which can completely remove it. The error arises from certain tendencies which are in themselves legitimate, but which have been carried too far; and Positivism satisfies these tendencies in their due measure. Hitherto the evil has remained unchecked, except by the theologico-metaphysical spirit, which, by giving rise to what is called Spiritualism, has rendered a very valuable service. But useful as it has been, it could not arrest the active growth of Materialism, which has assumed, in the eyes of modern thinkers, something of a progressive character, from having been so long connected with the cause of resistance to a retrograde system. Notwithstanding all the protests of the spiritualists, the lower sciences have encroached upon the higher to an extent that seriously impairs their independence and their value. But Positivism meets the difficulty far more effectually. It satisfies and reconciles all that is really tenable in the rival claims of both Materialism and Spiritualism; and, having done this, it discards them both. It holds the one to be as dangerous to Order as the other to Progress. This result is an immediate consequence of the establishment of the encyclopædic scale, in which each science retains its own proper sphere of induction, while deductively it remains subordinate to the science which precedes it. But what really decides the matter is the fact that such paramount importance, both logically and scientifically, is given by Positive Philosophy to social questions. For these are the questions in which the influence of Materialism is most mischievous, and also in which it is most easily introduced. A system, therefore, which gives them the precedence over all other questions, must hold Materialism to be quite as obstructive as Spiritualism, since both are alike an obstacle to the progress of that science, for the sake of which all other sciences are studied. Further advance in the work of social regeneration implies the elimination of both of them, because it cannot proceed without exact knowledge of the laws of moral and social phenomena.

With the view of securing a dispassionate consideration of this subject, and of avoiding all confusion, I have laid no stress upon the charge of immorality that is so often brought against Materialism. The reproach, even when made sincerely, is constantly belied by experience. Indeed, it is inconsistent with all that we know of human nature. Our opinions, whether right or wrong, have not, fortunately, the absolute power over our feelings and conduct which is commonly attributed to them. Materialism has been provisionally connected with the whole movement of emancipation, and it has, therefore, often been found in common with the noblest aspirations. That connection, however, has now ceased; and it must be owned that even in the most favourable cases,

has been brought as a charge against Positivism; and also how unjust that charge is. Spiritualism hitherto the only check on Materialism.

Positivism a more effectual check.

Reproach of immorality, which is sometimes brought against Materialism, considered.

this error, purely intellectual though it be, has to a certain extent always checked the free play of our nobler instincts, by leading men to ignore or misconceive moral phenomena, which were left unexplained by its crude hypothesis.

E.

MAN'S LIBERTY.*

Law is supposed by some to be opposed to Liberty.

To subject social and moral phenomena to invariable laws of the same nature as the laws to which the phenomena of Life and Matter are subjected, is represented by certain reasoners as incompatible with the Liberty of Man. This objection may be obviated by a direct statement of the nature of true Liberty.

Liberty, in its true sense, defined.

Liberty, in its true sense, is in no way incompatible with the order of things. On the contrary, in every case, Liberty consists in *obeying, without any hindrance, the laws which in each case are applicable*. When a body falls, it shows its Liberty, by moving according to its nature towards the centre of the Earth, with a velocity proportionate to the time, unless the interference of a fluid modifies its natural action. So in the department of Life, every function, Vegetable or Animal, is said to be free, if it exerts itself according to the laws applicable to its case, without any hindrance from within or from without. The Intellectual and Moral existence of Man admits of the application of the same principle. This is seen directly in the case of our Action; but if true of our Action, it becomes at once necessary for the *motor* of our Action, that is, our Affection; necessary also for that which *guides* our Action, that is, our Reason.

Liberty in the department of Life, and of Man.

Intellectual Liberty.

If Liberty for Man consisted in his obeying no Law, such Liberty would be even more immoral than absurd, for it would make every system of life impossible for the Individual or for the Society. Our Intellect then most fully evidences its Liberty when it fulfils that which is its vocation, in its normal state—when it becomes, that is, the faithful mirror of the world without, in spite of the Physical or Moral impulses which might have a tendency to disturb its action. No one can refuse an intellectual assent to demonstrations which he understands. Nay more, no one can reject the opinions which are generally received by those among whom he lives, even though he do not know the foundation on which they rest, granting that he has no previous belief of the contrary. For instance, we might challenge the proudest metaphysicians to deny the Earth's Motion, or doctrines of still more recent origin; and

* See *Catechism* (translated by Dr. R. Congreve), pp. 228—230.

yet they have no knowledge whatever of the scientific proofs of such doctrines. It is the same in respect to Moral order. It would be one mass of contradictions, nay, the very idea of it would be contradictory were it possible for every one, at his own good pleasure, to hate when he ought to love, or *vice versa*. The Will* admits of a Liberty similar to that of the Intellect. The Will is free, when our good instincts acquire such ascendancy that our Affection can do its proper work, and, by its impulse, enable us to overcome our bad instincts, the egoistic motors. See Table C. Thus in every case equally, true Liberty is inherent in, and subordinate to, the order which prevails, whether for Man, or in the external World. But in proportion as the phenomena become more complicated, they become more exposed to disturbance. Hence the need of greater efforts to maintain their normal state—efforts, however, for which there is abundant scope, owing to their being more open to systematic modifications. Our highest Liberty, then, consists in making, as far as possible, our good inclinations predominate over our bad. This, too, is the direction in which our power is capable of most extension, provided always that, in our intervention, we act in constant obedience to the fundamental laws of the whole order of things.

Moral
Liberty.

F.

THE WORD 'POSITIVE.'†

ALL the essential attributes of Positivism are summed up in the word *Positive*. All the languages of Western Europe agree in understanding by this word and its derivatives the two qualities of *reality* and *usefulness*. Combining these, we get at once an adequate definition of the true philosophic spirit, which, after all, is nothing but good sense generalized and put into a systematic form. The term also implies in all European languages, *certainity* and *precision*, qualities by which the intellect of modern nations is markedly distinguished from that of antiquity. Again, the ordinary acceptance of the term implies a directly *organic* tendency. Now the Metaphysical spirit is incapable of organizing; it can only criticise. This distinguishes it from the Positive spirit, although for a time they had a common sphere of action. By speaking of Positivism as organic, we imply that it has a social purpose;

The word
Positive
includes—
1. *Real*,
2. *Useful*,

3. *Certain*,
4. *Exercise*,
5. *Organic*,

* The Will, according to Comte's Cerebral Theory, is directly a result of every Affective impulse which has the sanction of the Intellect, in its capacity of guide of our conduct. (Table C., p. 126).

† See *A General View of Positivism* (translated by Dr. Bridges), pp. 60—61.

that purpose being to supersede Theology in the spiritual direction of the human race.

6. *Relative.*

But the word will bear yet a further meaning. The organic character of the system leads us naturally to another of its attributes, namely, its invariable *relativity*. Modern thinkers will never rise above that critical position which they have hitherto taken up towards the past, except by repudiating all absolute principles. This last meaning is more latent than the others, but is really contained in the term. It will soon become generally accepted, and the word *Positive* will be understood to mean *relative* as much as it now means *organic*, *precise*, *certain*, *useful*, and *real*. Thus the highest attributes of human wisdom have, with one exception, been gradually condensed into a single expressive term. All that is now wanting is that the word should denote what at first could form no part of the meaning, the union of Moral with Intellectual qualities. At present, only the latter are included; but the course of modern progress makes it certain that the conception implied by the word *Positive* will ultimately have a more direct reference to the Heart than to the Understanding. For it will soon be felt by all that the tendency of Positivism (and that by virtue of its primary characteristic, *reality*,) is to make Feeling systematically supreme over Reason as well as over Activity. After all, the change consists simply in realising the full etymological value of the word *Philosophy*. For it was impossible to realize it until Moral and Mental conditions had been reconciled; and this has been now done by the foundation of a Positive Science of Society.

It will also eventually receive a Moral signification.

G.

THE POLYTHEISTIC MODE OF THOUGHT.*

Early Greek mind satisfied with the belief in polytheistic personal agents, as the real producing causes of phenomena.

THE philosophical speculation of the Greeks begins with the theology and cosmology of Homer and Hesiod. The series of divine persons and attributes, and generations, presented by these poets, and especially the Theogony of Hesiod, supplied at one time full satisfaction to the curiosity of the Greeks respecting the past history and present agencies of the world around them. . . . The sentiment of curiosity, as it then existed, was only secondary and derivative, arising out of some of the strong primary or personal sentiments—fear or hope, antipathy or sympathy,—impression of present weakness,—unsatisfied appetites and longings—wonder and awe under the presence of the terror-striking

phenomena of nature, &c. Under this state of the mind, when problems suggested themselves for solution, the answers afforded by Polytheism gave more satisfaction than could have been afforded by any other hypothesis. Among the indefinite multitude of invisible, impersonal, quasi-human agents, with different attributes and dispositions, some one could be found to account for every perplexing phenomenon. The question asked was not, What are the antecedent conditions and causes of rain, thunder, or earthquakes; but, Who rains and thunders? Who produces earthquakes? The Hesiodic Greek was satisfied when informed that it was Zeus or Poseidon. To be told of physical agencies would have appeared to him not merely unsatisfactory, but absurd, ridiculous, and impious. It was the task of a poet like Hesiod to clothe this general polytheistic sentiment in suitable details; to describe the various Gods, Goddesses, Demigods, and other quasi-human agents, with their characteristic attributes, with illustrative adventures, and with sufficient relations of sympathy and subordination among each other, to connect them in men's imaginations as members of the same brotherhood. Okeanus, Gæa, Uranus, Helios, Selênê,—Zeus, Poseidon, Hades—Apollo and Artemis, Dionysus and Aphroditê—these and many other divine personal agents were invoked as the producing and sustaining forces in nature, the past history of which was contained in their filiations or contests.

TABLE A.

*Fundamental Laws of Life.**

I.—THE VEGETABLE LIFE, OR THAT OF NUTRITION.

1. The Law of Renewal. Every living being requires that its substance should be constantly renewed.
2. The Law of Growth and Decay, ending in Death.
3. The Law of Reproduction.

II.—THE ANIMAL LIFE, OR THAT OF RELATION.

4. The Law of Intermittence. This consists in the need of alternate exercise and rest which is felt throughout the whole life of Relation.
5. The Law of Habit, which proclaims the tendency of each intermittent function to habitual exercise.
The complement of this is the Law of Imitation.
6. The Law of Progress. A capacity of improvement, both in the statical and dynamical point of view, is inherent in all the phenomena of Relation.
7. The Law of Hereditary Transmission, obtained by combining the 3rd and 6th laws.

* See pp. 57—59.

TABLE B.

Theoretical Hierarchy of Human Conceptions, or Synthetical View of the Universal Order, in an Encyclopedic Scale of five or seven Degrees.

POSITIVE PHILOSOPHY, OR SYSTEMATIC KNOWLEDGE OF HUMANITY.					
				HISTORICAL DIVISION.	
STUDY OF THE EARTH, or COSMOLOGY.	{ Abstract, or Fundamental Study of the form of Existence common to all things ... (Number, Extension, Motion), Concrete, or Direct Study of the Laws of Matter... II. PHYSICS. }	I. MATHEMATICS.		PRELIMINARY SCIENCE, or NATURAL PHILOSOPHY. (The order of the External World.)	FINAL SCIENCE, or MORAL PHILO- SOPHY. (Social and Moral Order.)
		...	...	1 2 3 4	5 6 7
			{ Celestial, or ASTRONOMY. Terrestrial { General, or PHYSICS... (Proper). Special, or CHEMISTRY.	...	...
STUDY OF MAN, or SOCIOLOGY.	{ Preliminary, or General Study of the Laws of Life... III. BIOLOGY. Final, or Direct study of Man; or of Social and Moral Laws. }	...	...	...	...
		IV. SOCIOLOGY (Proper) ... V. MORALS. ...	...	...	...

Qualities,	ACTIVITY.	{	Courage.	..	RESULT.	{	16
	... {	Pudence.	17	
	FIRMNESS, hence Perseverance.	18	

SUMMARY OF THE CEREBRAL THEORY.

THESE eighteen organs together form the Cerebral Apparatus, which, on the one hand, stimulates the life of nutrition; on the other, co-ordinates the life of relation, by connecting its two kinds of external functions. Its speculative region is in direct communication with the viscera of sensation, its active region with the nerves of motion. Its affective region has no direct communication with the two regions. This part of the brain, the essential centre of the whole of our existence, is in constant activity. It is enabled to be so by the alternate rest of the two symmetrical parts of each of its organs.* As for the rest of the brain, its periodical cessation of action is as complete as that of the senses and muscles. Thus our harmony as living beings depends on the principal region of the brain, the affective; it is from this that the two others derive their impulse, and in obedience to this impulse, the two others direct the relations of the animal with the external agencies which influence it, whether such relations be active or passive.

TABLE D.*

PHILOSOPHIA PRIMA.

The fifteen fundamental Principles on which Positivism rests.

I.—FIRST GROUP.

Both *Objective* and *Subjective*.

1. Form the simplest hypothesis compatible with the whole of the data. (See p. 37).
2. The laws of nature are to be regarded as invariable.
3. All modifications whatsoever of the universal order are confined to the *intensity* of phenomena, the *arrangement* always remaining unaltered.

II.—SECOND GROUP.

(a) *Subjective*, and relating to the *statical* condition of the intellect.

1. Our subjective constructions must always be subordinate to the objective materials of those constructions. (See p. 34).
2. Our subjective conceptions are always less vivid and less clear than the objective impressions from which they rise. (See p. 35).
3. Among images which co-exist in the brain, some are always preponderates.

(b) *Subjective*, and referring to the *dynamical* of the intellect.

1. The Law of the three stages. (See p. 3, 35).
2. Man's activity passes through three stages, namely (i) *Offensive War*, (ii) *Defensive War*, (iii) *Industry*. (See p. 65).
3. Man's sociability is at first *domestic*, then *civic*, and finally *universal*. (See p. 63).

III.—THIRD GROUP.

Objective.

(a)

1. Every statical or dynamical condition tends to persist spontaneously, in spite of external disturbance. (See p. 51).
2. Any system maintains its active or passive constitution while its elements undergo simultaneous changes, so long as those changes are rigorously common to the whole system. (See p. 51).
3. Action and re-action are always equivalent, provided that the intensity of each be measured in conformity with the nature of the conflict. (See p. 51).

(b)

1. The theory of *momentum* should be subordinated to that of *existence*, by conceiving all progress as the development of the corresponding order:—the conditions of order should, in every case, govern the changes which constitute the evolution.
2. Every positive classification, whether subjective or objective, should proceed according to the rule of the increase or decrease of generality. (See p. 19, 37).
3. In any connected series of three terms, the middle term should be normally subordinated to the two extremes. (See p. 53).

* This Table has been taken, with very slight modifications, from Dr. Audiffrent's treatise, *Du Cerveau et de l'Innervation*.—The *Philosophia Prima* will be found discussed at length in the *Pétitione Positivæ* Vol. IV., pp. 173-181.

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* Tables B. and C. are taken from the *Catechism*. Table D. is a *resumé* of a portion of the *Politique Positive*. Table G. is a modification of the *Positivist Calendar*; the same modification is given in Baron W. De Constant Rebecque's *Appréciation Positive de De l'Imitation de Jésus Christ*.

TABLE E.

*Preparatory Period (antecedent to Positivism.)**

I.—FETICHISM.

- | | | |
|----------------|---|--------------------|
| 1. Spontaneous | { | (i). Nomad. |
| | | (ii). Sedentary. |
| 2. Systematic | { | (iii). Sacerdotal. |
| | | (iv). Military. |

II.—POLYTHEISM.

- | | | | | |
|---------------------------------|--|---|-----------------------------|----------------------|
| 1. Conservative, or Theocracy.* | | | | |
| 2. Progressive | <table> <tr> <td rowspan="2">{</td> <td>(i). Intellectual (Greece).</td> </tr> <tr> <td>(ii). Social (Rome).</td> </tr> </table> | { | (i). Intellectual (Greece). | (ii). Social (Rome). |
| { | (i). Intellectual (Greece). | | | |
| | (ii). Social (Rome). | | | |

III.—MONOTHEISM.

1. Theocratic (Judea).
2. Catholic.
3. Metaphysical.

* This Table of the *Preparatory Period* and the succeeding Table F. have been framed in accordance with the Table, in the *Catechism*, which has reference to the *Abstract Worship of Humanity*.

TABLE F.

HISTORICAL TYPES.

I.—POLYTHEISM.

	(a) ESTHETIC ...	{ Homer. Æschylus. Phidias.
1. INTELLEC- TUAL	(b) SCIENTIFIC and PHILOSOPHICAL	{ Thales. Pythagoras. Aristotle. Hippocrates. Archimedes. Apollonius. Hipparchus.
2. SOCIAL	... ..	{ Scipio. Cæsar. Trajan.

II.—MONOTHEISM.

1. THEOCRATIC	..	... { Abraham (B. C. 1996—1822). Moses. Solomon (B. C. 1033—975).
2. CATHOLIC	.	... { St. Paul. Charlemagne. Alfred. Hildebrand. Godfrey of Bouillon. St. Bernard.
3. MUSSULMAN	.	... Mahomet (A.D. 570—632).
4. METAPHYSICAL . .	...	{ Dante. Descartes. Frederick II.

TABLE G.

HUMANITY.

*Concrete Types of the Preparatory Period in Man's History,
(Referring more especially to the West).*

1.—THE INITIAL THEOCRACY.

MOSES. (B. C. 1571—1451).	{	Numa (<i>reigned</i> from 715 to 673).
	{	Buddha (Fl. B. C. 500).
	{	Confucius (B. C. 551—478).
	{	Mahomet (A. D. 570—632).

2.—ANCIENT POETRY.

HOMER. (Fl. B. C. 900).	{	Æschylus (B. C. 525—456).
	{	Phidias (B. C. 490—432).
	{	Aristophanes (B. C. 444—380).
	{	Virgil (B. C. 70—19).

3.—ANCIENT PHILOSOPHY.

ARISTOTLE. (B. C. 384—322).	{	Thales (B. C. 640—545).
	{	Pythagoras (Fl. B. C. 550).
	{	Socrates (B. C. 469—399).
	{	Plato (B. C. 429—347).

4.—ANCIENT SCIENCE.

ARCHIMEDES. (B. C. 287—212).	{	Hippocrates (B. C. 460—357).
	{	Apollonius (Fl. B. C. 250—220).
	{	Hipparchus (Fl. B. C. 150).
	{	Pliny the elder (A. D. 23—79).

5.—MILITARY CIVILIZATION.

CÆSAR. (B. C. 100—44).	{	Themistocles (B. C. 514—449).
		Alexander (B. C. 356—323).
		Scipio (B. C. 234—183).
		Trajan (A. D. 52—117).

6.—CATHOLICISM.

ST. PAUL. (A. D. 2 (?)—66).	{	St. Augustine (A. D. 354—430).
		Hildebrand (aft. Gregory VII. Pope from 1073 to 1085).
		St. Bernard (1091—1153).
		Bossuet (1627—1704).

7.—FEUDAL CIVILIZATION.

CHARLEMAGNE. (742—814).	{	Alfred (849—901).
		Godfrey of Bouillon (1060—1100).
		Innocent III. (1161—1216).
		St. Louis (1214—1270).

8.—MODERN EPIC POETRY.

DANTE. (1265—1321).	{	Ariosto (1474—1533).
		Raphael (1483—1520).
		Tasso (1544—1595).
		Milton (1608—1674).

9.—MODERN INDUSTRY.

GUTENBERG. (1400—1467).	{	Columbus (1446 (?)—1506).
		Vaucanson (1709—1782).
		Watt (1736—1819).
		Montgolfier (1745—1799).

10.—MODERN DRAMA.

SHAKESPEARE. (1564—1616).	{	Calderon (1601—1681).
		Corneille (1606—1684).
		Molière (1622—1673).
		Mozart (1756—1792).

11.—MODERN PHILOSOPHY.

DESCARTES. (1596—1650).	{	St. Thomas Aquinas (1227—1274).
		Bacon (1561—1626).
		Leibnitz (1646—1714).
		Hume (1711—1776).

12.—MODERN POLITICS.

FREDERICK II. (1712—1786).	{	Louis XI. (1423—1483).
		William the Silent (1533—1584).
		Richeli��u (1585—1642).
		Cromwell (1599—1658).

13.—MODERN SCIENCE.

BICHAT. (1771—1802).	{	Galileo (1564—1642).
		Newton (1642—1727).
		Lavoisier (1743—1794).
		Gall (1757—1828).

TABLE H.

WESTERN REPUBLIC.

*The five homogeneous and most advanced Communities
of the West.*

1. France.	}	Latin Stock.
2. Italy.		
3. Spain.		
4. England.	}	Germanic Stock.
5. Germany.		

TABLE I.

MIDDLE AGES.

CATHOLICO-FEUDAL PERIOD.

A.—FIRST PERIOD. A. D. 400—700.

1. *Political changes.* (i). First settlement of Barbarians.
(ii). Establishment of New Western Régime.
2. *Industrial changes.* Serfage replaces Slavery.

B.—SECOND PERIOD. A. D. 700—1000.

1. *Political changes.* (i). Defensive Wars, Invasions of fresh tribes repelled.
(ii). Climax of New Régime.
2. *Industrial changes.* Serfage abolished in Towns and Boroughs.

C.—THIRD PERIOD. A. D. 1000—1300.

1. *Political changes.* (i). Crusades, or collective action against Monotheistic Invasions.
(ii). Feudalism in its strictest form established.
(iii). New Régime begins to show symptoms of decline.
2. *Industrial changes.* Formation of the Communes.

FEUDALISM.

Its three chief Characteristics.

- (i). The transformation of Offensive into Defensive War.
- (ii). The breaking up of the Temporal Power into small territorial sovereignties, favouring the transmutation of life-interests into hereditary fiefs.
- (iii). Transmutation of Slavery into Serfage.

TABLE K.

MODERN HISTORY.

CRITICO-REVOLUTIONARY PERIOD.

A.—FIRST PERIOD. A. D. 1300—1500.

Spontaneous Decline.

1. *Spiritual changes.* (i). Struggle between Spiritual and Temporal Powers.
(ii). The Kings overpower Papacy.
2. *Political changes.* Struggle between Local and Central Powers. Royalty prevails, as a rule.
3. *Industrial changes.* (i). Gunpowder invented.
(ii). Printing invented.
(iii). Discovery of America, and of the Passage by the Cape of Good Hope to India.

B.—SECOND PERIOD. A. D. 1500—1789 *and after*.*Systematic Decline.*

(a). PROTESTANT (1500—1680).

1. *Political changes.* (i). Great Nationalities formed.
(ii). Temporal Dictatorship perfect.
(iii). Rise of Ministerial Functions.
2. *Industrial changes.* (i). Colonial System established.
(ii). Colonial Slavery.

(b). DEIST & FINAL CRISIS. (1680—1789 *and after*).

1. *Political changes.* (i). Aristocratic Government finally prevails in Protestant, Monarchical in Catholic countries.
(ii). Colonial Disputes.
(iii). Explosion of the 18th century.
2. *Industrial changes.* (i). Ascendancy of Banking Class.
(ii). War the Minister of Commerce.
(iii). Extension of Machinery.

TABLE L.

*The Chief Social Elements in their order of Development.**

I.—THE PRACTICAL LIFE (TEMPORAL).

*
(Action of man upon Nature).

- | | | |
|-----------------------------|---|--|
| 1. INDUSTRY.
(The Good). | { | (i). Agriculture.
(ii). Manufactures.
(iii). Commerce.
(iv). Banking. |
|-----------------------------|---|--|

Motor. The Posterior part of the Brain.

II.—THE SPECULATIVE LIFE (SPIRITUAL).

- | | | |
|--|---|--|
| 2. ÆSTHETICS
OR
FINE ARTS.
(The Beautiful). | { | (i). Poetry.
(ii). Music.
(iii). Painting.
(iv). Sculpture.
(v). Architecture. |
|--|---|--|

Motor. The Middle part of the Brain.

- | | |
|------|---|
| 3. { | SCIENCE, (See Table B).
PHILOSOPHY.
(The True). |
|------|---|

Motor. The Anterior part of the Brain.

* They are arranged in accordance with the Law of the priority of the more general and simple over the more special and complex.

TABLE M.

PRECURSORS OF COMTE.

18TH AND 19TH CENTURIES.

PHILOSOPHY ...	...	{ Hume (1711—1776). Kant (1724—1804).
POLITICAL SCIENCE	...	{ Condorcet (1743—1794). De Maistre (1755—1821).
SCIENCE	...	{ BICHAT (1771—1802). Gall (1757—1828).

The *three* Fathers of *Modern* Philosophy. .

1. Bacon (1561—1626).
2. DESCARTES (1596—1650).
3. Leibnitz (1646—1714).

Intellectual exponents of the *Middle* Ages.

- St. Thomas Aquinas (1227—1274).
 Roger Bacon (1214—1292).
 DANTE (1265—1321).

The Type of *Ancient* Philosophy and the Prince of Thinkers.

- ARISTOTLE (B. C. 384—322).

TABLE N.

*A List of the Chief Positivist Maxims contained in this Volume.**

1. Any kind of knowledge reaches the Positive Stage early in proportion to its generality, simplicity, and independence of other departments. *See* p. 17.
2. All our conceptions are essentially *relative*. *See* p. 31.
3. To act from affection, and to think in order to act. *See* p. 32.
4. Every organism is in a constant dependence on the sum of external influences. *See* p. 35.
5. We are obliged to draw upon ourselves for the means of subjectively connecting our objective impressions. *See* p. 36.
6. Always form the simplest hypothesis compatible with the whole of the data. *See* p. 37.
7. In advancing from one science to the next, we must always bear in mind the natural subordination of the respective phenomena of the two sciences under consideration. *See* p. 42.
8. Increasing complexity in phenomena is accompanied by increasing dependence on the less complex, and by increasing susceptibility of modification. *See* p. 45.
9. The noblest phenomena are, in all cases, subordinate to the lowest. *See* p. 46, 60.
10. All our scientific efforts should contribute to a moral purpose. *See* p. 46.
11. We should look first to the two extremes if we wish to form a right conception of the intermediate step by which they are united. *See* p. 53.
12. We should study all phenomena in the beings where they are most strongly marked and most free from complication with higher phenomena. *See* p. 56.

* *See* also Tables C. and D. for other important maxims and rules.

13. Phenomena become more susceptible of modification, and consequently of improvement, in proportion as they are by nature higher and more special. *See* p. 59.
14. By Labour we mean The successful efforts Man makes to modify his destiny. *See* p. 62.
15. The unity of Man rests on the constant subordination of the Intellect to the Heart. *See* p. 93.
16. Our functions and our organs are developed or restrained in proportion to their exercise or disuse. *See* p. 95.
17. Virtue will always remain an effort over one's self in favour of others. *See* p. 96.
18. The principal source of real Morality lies in the direct exercise of our Social Sympathies. *See* p. 103.
19. The most difficult problem of Man's existence is to secure the gradual predominance of sociability over personality. *See* p. 107.
20. Positivism condenses the whole of sound Morality into one maxim, *Live for others*. *See* p. 95, 108.
21. Every system of religious doctrine necessarily rests on some explanation, no matter what, of the World and Man. *See* p. 109.
22. Our life is destined to be a compound of Resignation and Action. *See* p. 111.
23. Love, our principle ; Order, our basis ; Progress, our end. *See* p. 112.
24. The living are always, and the more so the more we advance in time, under the government of the dead. *See* p. 114.
25. Liberty consists in obeying, without any hindrance, the laws which in each case are applicable. *See* p. 120.
26. The true philosophic spirit is nothing but good sense generalized and put into a systematic form. *See* p. 121.

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